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V O L U M E I I.

From the Death of J A C O B to the Establishment  
of M O N A R C H Y among the I S R A E L I T E S.

E D I N B U R G H:

Printed by A L E X. D O N A L D S O N and J O H N R E I D.

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PARAGRAPHS.

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154.	22.	<i>for is read are</i>

# The ORIGIN of LAWS, ARTS, and SCIENCES, and their PRO- GRESS among the most ANCIENT NATIONS.

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## I N T R O D U C T I O N.

**T**HE space of time which elapsed from the deluge to the death of Jacob, was, without contradiction, the most disagreeable part of our work. We have not facts enow, nor sufficient historical details, to frame an absolutely clear idea of the human race in the first ages. We ought not indeed to promise ourselves more in the infancy of the world; it is even more than one durst hope for in times so remote. In spite of the scarcity of monuments, one may always have a glimpse of the steps by which these people gradually arose to perfection.

We shall not be exposed to the same inconveniencies in the ages of which I am going to give an account. Although in the number of facts which present themselves, there are some greatly altered by fable, they afford, notwithstanding, a great deal for the gratification of curiosity. Sufficient particulars have been transmitted to us of the state of politics, arts, sciences, commerce, navigation, and the art-military in some parts of Asia, and in Egypt.

Greece, which until this time there has been scarce any notice taken of, begins now to fix our attention. In proportion as we come down from the ages near the deluge, we shall see arts and sciences introduce themselves into that part of Europe, and its inhabitants emerge from barbarism.

The picture of all these different objects is not difficult to trace. The epochs of them are known, we are able to determine them; in a word, we may easily follow the progress of nations, determine exactly enough the degree of their knowledge, and estimate their scientific attainments.



## P A R T II.

From the death of Jacob to the establishment of monarchy among the Israelites, containing about 600 years.

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### B O O K I.

#### *Of Government.*

THE history of the Upper Asia will not afford us, in the course of the present æra, any insight in politics, laws, and the form of government. The events that happened in that part of the world during the whole space of time under our present examination, are absolutely unknown. The history of Egypt is not quite so barren in those times as that of the Upper Asia; it will give us some assistance in each of the objects which I have just indicated: but Greece will abundantly repay us for the small assistance which Asia and Egypt will afford us for that period. The history of that part of Europe affords, in the ages we are now treating of, variety of events, of circumstances and details, abundantly sufficient to instruct us in the progress of laws and politics among the different people, known under the name of *Greeks*.

### C H A P. I.

#### *Of the Babylonians and Assyrians.*

WE have seen in the first part of this work, that Ninus had united the throne of Babylon to that of Assyria. We have there likewise seen, that, on the death of that prince, the vast empire formed by his conquests fell into the hands



CHRONOLOGICAL TABLE for the SECOND PART,

Which comprehends from the Death of JACOB to the Establishment of ROYALTY among the HEBREWS.

EMPIRES.

YEARS of the world	before J. C.	SACRED HISTORY.	YEAR before J. C.	E G Y P T.	BABYLONIANS, ASSYRIANS, MEDES.	YEAR before J. C.	Kings of ARGOS.	YEAR before J. C.	Kings of LACE- DEMON.	YEAR before J. C.	Kings of ATHENS.	YEAR before J. C.	Kings of THEBES.
2369.	1571.	Commencement of the oppression of the Israelites.	1659.	Sesostris reigns 59 years.  We have nothing very certain of the names of the successors of Sesostris, nor of the duration of their reigns.	These three monarchies were then united under one and the same dominion, and formed what is commonly called the Assyrian Empire. I have already said, that we do not know the succession of kings which governed it to SARDANAPALUS. See b. 1. c. 1.	1677.	CRIASUS reigned . . . . 54 years.						
						1623.	PHORDAS . . . . . 35						
2433.	1635.	Birth of Moses.				1588.	TRIOPAS . . . . . 46 years.			1582.	CECROPS, come from Egypt, marries the daughter of Acteus who then reigned in Attica, succeeds him, builds Athens, and reigns 50 years.		
2473.	1531.	He slays an Egyptian, and flies into the land of Madian, to JETHRO, whom he serves 40 years.		Kings uncertain.		1542.	CROTOPUS . . . . . 21.			1532.	CRANAUS . . . . 9.		
						1521.	STHENELUS . . . . . 11.	1516.	LELEX. We know not how long he reigned. It is the same with the greatest part of his successors.	1523.	AMPHICTION . . 10.	1519.	CADMUS, come from Phoenicia, builds Thebes, and reigns . . . . . 62 years.
						1510.	GELANOR some months. DANAUS comes from Egypt, deprives him of the crown, and reigns . . . . . 50			1513.	ERICHTHON . . 50.		
2514.	1490.	Going out of Egypt.  The Israelites wander 40 years in the wilderness.											
2553.	1451.	Election of JOSHUA. Death of Moses.  JOSHUA governs . . . 17 years.		Kings uncertain.		1460.	LYNCEUS . . . . . 41 years.		MYLES.  EUROTAS.  LACEDÆMON.	1463.	PANDION . . . 40 years.	1457.	PELIDOR . . . . .
2570.	1434.	ELEAZAR succeeds him.								1423.	ERECHTHEUS . 50.		LABDACUS . . . 42 years.
2599.	1405.	First servitude under CHUSAN King of Melopotamia, it continues . . 8.				1419.	ABAS . . . . . 23.		AMYCLES.			1416.	LAIUS . . . . 20.
2607.	1397.	OTHNIEL delivers the Israelites, and governs them . . . . . 72 years.				1396.	PROETUS . . . . . 17 years.					1395.	AMPHION . . . 38 years.
2661.	1343.	Second servitude under EGLON, King of Moab; it continues . . . . 18.				1379.	ACRISIUS . . . . . 31.		ARGALUS.  CYNORTAS.  CEBALUS.  HYPPOCOON.	1373.	CECROPS II. . . 40 years.	1358.	LAIUS . . . . 56.
2679.	1323.	EHUD delivers the Israelites, and governs them 20.  SAMGAR succeeds him.		Kings uncertain.		1348.	PERSEUS by mistake kills ACRISIUS his father, exchanges his kingdom with MEGAPENTHEUS, King of Tyrinthea, and builds Mycenæ, which he makes the capital of his new kingdom.			1333.	PANDION II. . . 25.		
2699.	1305.	Third servitude under JABIN King of HAZOR, it continues . . . . 20.					ARGOS. MYCENÆ. MEGAPENTHEUS. 1348. PERSEUS. ANAXAGOREUS. MASTOR.			1308.	EGEUS . . . . 48.		
2719.	1285.	DEBORAH delivers Israel.					ALECTOR.  IPHIS.  STHENELUS.  CYLABARIS.		ELECTRION.  1280. STHELENUS.  1234. ATREUS. THIESTES. 1216. AGAMEMN. 19 y. 1209. EGISTHES 7. 1202. ORESTES 70.		TYNDARUS.  CASTOR and POLLUX.  MENELAUS.	1260.	THESEUS . . . 30 years.
2752.	1252.	Fourth servitude under the Midianites, it continues 8.										1292.	ŒDIPUS . . . 38 years.
2759.	1245.	GIDEON delivers the Israelites, and governs them 9.  ABIMELECH his son usurps the government for . . 3.		Kings uncertain.						1230.	MNESTHEUS . . 43.  War of Troy.	1254.	ETEOCLES . . . 3.
2799.	1205.	Fifth servitude under the Ammonites, it continues . . . . 18.								1207.	DEMOPHON . . 33.	1251.	LAODAMAS . . 10.
2817.	1187.	JEPHTHAH governs . . 6 years.										1240.	THERSANDER . . 12.
2823.	1181.	IBZAN governs . . . . 7.										1217.	TISAMENES.  AUTESION.
2830.	1174.	ELON governs . . . . 10.											
2840.	1164.	ABDON governs . . . . 8.											
2846.	1156.	ELI governs . . . . . 40.		Kings uncertain.									
2869.	1135.	Prodigies of SAMSON.  Sixth servitude under the Philistines.											
2888.	1116.	SAMUEL governs . . . 21.											
						1132.	ORESTES becomes King of Argos and Lacedæmon.  TISAMENES his son reigns . . . . . 3 years.  He is driven out by the posterity of HERCULES, known in history under the name of the HERACLIDÆ. They marched under the conduct of three principal chiefs, ARISTODEMUS, TEMENES, and CHRESPHONTES. These conquerors divided amongst them the countries which they had subdued. TEMENES had Argolida. Melenia fell to CHRESPHONTES. ARISTODEMUS dying during this expedition, his two sons, EURYSTHENES and PROCLUS, took his place, and had Laconia for their share. These princes did not think proper to divide the dominions which had been adjudged to them. They both governed them therefore conjointly with equal authority, each taking at the same time the title of King of Lacedæmon, and being acknowledged as such.			1174. 1162. 1161. 1153. 1116.	OXYNTHAS . . . 12 years. APHIDAS . . . . 1. THYMÆTES . . . 8. MELANTHUS . . 37. CODRUS . . . . 20.  After the death of this prince, Athens became a REPUBLIC. Two magistrates were chosen to govern the state, which were called ARCHONTES. They were at first perpetual, that is to say, that he who was invested with that office, kept it during life.		DAMASICTON.  XANTHUS.  At the death of this prince, Thebes became a REPUBLIC. We know not what was then the form of its government. We even lose sight entirely of the history of this city: it does not begin again to make any figure, till the time of XERXES's expedition into Greece.





hands of Semiramis his consort. From Ninias, son and successor of Semiramis, to Sardanapalus, we find an astonishing vacuity in the history of Assyria and Babylon. There is nothing to be depended on in a series of kings who had possessed the throne for above 800 years. They have indeed preserved the names of the greatest part of those monarchs<sup>a</sup>; but that list has appeared suspicious to some critics. They pretend to have discovered in it many marks of forgery<sup>b</sup>. However that may be, as there remain no monuments of those princes<sup>c</sup>, that discussion is of very little consequence.

The obscurity of their reigns is commonly attributed to the effeminacy and indolence which those ancient monarchs are said to have lived in; but perhaps that obscurity ought to be attributed, less to the supineness of those princes, than to the tranquillity they took care their people should enjoy. The virtues of a quiet and peaceable life are not so striking as the fame of military talents. History takes very little notice of any thing but conquests and important revolutions, especially when historians speak of countries they are not interested in. We know nothing of the history of those ancient people but from the Greek writers. The Greeks, a restless, unsettled people, esteemed nations only as they were warlike. They have not condescended to write the peaceable reigns of the kings of Nineveh<sup>d</sup>: lovers of the mar-

<sup>a</sup> Euseb. Chron. l. 2.; Syncell. p. 103. 108.-123.-147.-151.-154. 155.-159.-165.

<sup>b</sup> It has been pretended, that in the list given by Ctesias, there are a number of names which may very well have been borrowed from the Greek and Persian, to form so long a catalogue. Sphaerus, Iamprides, Laothanes, Dercylus, are Greek names; Amyntas is the name of the kings of Macedonia; Arias is a name of the Spartan kings; Xerxes, Armanitres, Mithraeus, are Persian names; Sofarnus is the name of a king of the Medes, according to Ctesias himself. See Montfaucon, hist. de Judith. p. 127. Yet one may excuse Ctesias for giving Greek and Persian names to many of the Assyrian kings, by saying, he had used those names as he found them in the archives of Persia, translated from the Assyrian into Persian. One might likewise say, that probably he translated them into Greek himself, and explained them by other names which to him may have appeared equivalent. How many authors have taken the same liberty? Without speaking of the Greeks and Latins, the history written by M. de Thou will alone furnish us with many examples of names so disguised that they can scarce be known.

<sup>c</sup> See our dissertation on the antiquities of the Babylonians and Assyrians, &c

<sup>d</sup> Diod. l. 2. p. 136.



vellous, they did not find in the history of the Assyrian monarchs those shining events, which fix the attention of the readers, and strike the writer's imagination. Extremely prejudiced in favour of the Egyptians, we may say, they would only know that people in all antiquity.

Yet we ought to think, that the successors of Ninias were not absolutely such as they are represented. All the historians of antiquity acknowledge, that they knew of no monarchy that had subsisted so long as that of the Assyrians<sup>c</sup>. Herodotus, who, of all the writers, allows the shortest duration to this empire, yet agrees, that the Assyrians had been masters of Asia for 520 years<sup>f</sup>. There is no mention made of any revolution during the course of so many ages. Could this empire have maintained itself for so long a space of time without troubles and without revolutions, if the kings who governed it had been entirely abandoned to debauchery, and sunk in effeminacy? Indeed, it seems probable, they only endeavoured to govern their people in peace; and, for that reason, the Greek historians thought them unworthy of notice, they found nothing remarkable to relate<sup>g</sup>. But should we therefore despise these princes? Do the warlike inclinations of a monarch always make his people happy? Besides, if it were so, we should necessarily lose sight of the Babylonians and Assyrians, during all that space of time which we shall run over in this second part of our work.

## C H A P. II.

### *Of the people of Palestine, and of Asia Minor.*

WE are better acquainted with the events which happened in the same ages, in that part of Asia which is washed by the Mediterranean. We have seen in the preceding volume, that a short time after the deluge, Palestine, and the borders of the Jordan, were inhabited by civilized

<sup>c</sup> Diod. l. 2. p. 137.; Dionys. Halicarn. l. 1. p. 2.

<sup>f</sup> L. 1. n. 95.

<sup>g</sup> Diod. l. 2. p. 136.

nations; which, notwithstanding, except the Sidonians, have made no great figure in history: most of these people were destroyed by Joshua when he conquered Palestine. Those to whom the Greeks gave the name of Phœnicians, were the only people who maintained themselves. We will make them more particularly known, when we speak of the state of commerce and navigation in the ages which employ us at present.

The history of Asia Minor, which till this time affords no materials for our work, presents us now with objects most worthy our attention. Many states, which are often mentioned in ancient history, sprung up in that part of the world. The Lydians, the Trojans, the Phrygians, are well-known nations. It is true, that, the Trojans excepted, these monarchies, in the times we speak of, were not very considerable; therefore we shall not dwell long upon them.

With respect to the Trojans, their empire was of pretty large extent. Many provinces were dependent on it. The whole maritime coast of the Hellespont was subject to them<sup>b</sup>. All the writers of antiquity agree in giving a great idea of the grandeur of Priam<sup>c</sup>. Troy, the capital of his dominions, was a considerable city; his kingdom moreover appears to have been very flourishing; but we know nothing in particular of its form of government; we are ignorant of their laws. What one may say with the greatest certainty is, that the crown was hereditary<sup>d</sup>.

The throne was also hereditary in the other kingdoms of Asia Minor. The way they relate how Gordius, whom we ought to look upon as the origin of the race of the

<sup>b</sup> Achilles, in the Iliad, says, that, by sea, he had taken twelve cities from the Trojans, and eleven by land. l. 9. v. 328.

<sup>c</sup> The description which Achilles made to Priam himself of the extent of the Trojan empire, gives us a great idea of it. Iliad. l. 24. v. 541. &c.

The epithet that Virgil gives Priam, is likewise a sign that they looked on that prince as the most powerful monarch that then reigned in Asia Minor.

. . . . . *Tet quondam populis terrisque superbum,  
Regnatorem Asiæ.* Æneid. l. 2. v. 559.

Strabo entitles Priam, King of kings. l. 13. p. 891.

<sup>d</sup> Diod. l. 4. p. 318. &c.



kings of Phrygia, obtained the sovereignty, shews us one of those events, which, in the earliest times, gave birth to kingly government.

The Phrygians, like all other people, were some time without any form of government. Weary of the evils to which their domestic dissensions daily exposed them, they consulted the oracle, to know what the end of them would be. The answer was, that to elect a king was the only means of putting an end to their miseries.

The Phrygians would know on whom they ought to fix their choice: The oracle ordered them to give the crown to the first person they should meet going in a car to the temple of Jupiter. Scarce had they received this answer, when they met Gordius. They proclaimed him king upon the spot<sup>1</sup>. Gordius, in memory of that event, consecrated to Jupiter the car in which he was when he was raised to the throne. The knot by which the car was yoked, was so artfully made, that it was not possible to discover where it began, or where it ended. This is the knot so well known in antiquity by the name of the Gordian knot. The oracle had declared, that he who could unloose it should have the empire of Asia<sup>m</sup>.

After Gordius, his son Midas ascended the throne, 1428 years before Christ<sup>n</sup>. The history, or rather fable, related of this prince, is too well known for me to dwell upon it. It was Midas who established in Phrygia the ceremonies of public worship, which, ever after his reign, was there paid to the Divinity. He derived from Orpheus the knowledge of these religious offices<sup>o</sup>. History remarks that those sentiments of religion with which he inspired his people, contributed more to strengthen his authority, than the power of his arms<sup>p</sup>.

<sup>1</sup> Justin, l. 11. c. 7.; Arrian. de exp. Alex. l. 2. p. 86.

Arrian deceives himself in referring to Midas what has been read of Gordius. The greatest number of writers agree to acknowledge Gordius for the first king of Phrygia.

<sup>m</sup> Arrian, *loco cit.* p. 87.

<sup>n</sup> See the memoirs of the academy of inscriptions, t. 9. p. 126.; Euseb. Chron. l. 2. p. 86.

<sup>o</sup> Conon apud Phot. narrat. i. p. 424.; Justin l. 11. c. 7.; Ovid. Metam. l. 11. v. 93.

<sup>p</sup> Conon, Justin. *loco cit.*

This is all that the history of Asia can supply us with on the subject we are at present employed about. The maxims, the political and civil laws of the people of whom we are speaking, are absolutely unknown to us. We cannot even form any idea of them. Materials are entirely wanting. Yet we must except the Lydians. Herodotus acquaints us that their laws were the same with those of the Greeks<sup>a</sup>.

But, if we were to turn our attention to the Hebrew nation, we should find materials in abundance to make us amends for the want of them in the other nations of Asia. From their going out of Egypt the Israelites began to form themselves into a nation, distinct by their laws, and by their customs, from all the rest of the earth; a nation which subsists at this day; and which is still governed by its own particular customs, though dispersed throughout all the countries of the universe.

The political and civil laws of the Hebrews are perfectly known to us; so well indeed, that it is not worth while to enumerate them. Besides, we ought not to make any comparison between the form of government established by Moses, and the other species of governments, of which history gives us examples. The Hebrew people had the singular advantage of having God particularly for their monarch, and for their legislator. It was from God himself that this nation had received its laws. In a word, it was the Supreme Being who condescended to prescribe the ceremonies of the worship that he would have paid him by the Israelites. We ought therefore to make no comparison between the laws of this people, laws dictated by wisdom itself, and those that could be observed by other nations. The precepts of the decalogue alone, contain more sublime truths, and maxims more essentially promotive of the good of mankind, than all the profane writings of antiquity could afford. The more we meditate on the laws of Moses, the more we shall perceive their wisdom, and inspiration; that infallible sign of the Divinity which fails all human works, in which, when we examine criti-

<sup>a</sup> l. i. p. 54



cally, we always find great defects : besides, the laws of Moses alone have the inestimable advantage, never to have undergone any of the revolutions common to all human laws, which have always demanded frequent amendments ; sometimes changes ; sometimes additions ; sometimes the retrenching of superfluities. There has been nothing changed, nothing added, nothing retrenched from the laws of Moses ; a singular example, and so much the more striking, as they have preserved their purity for above 3000 years. If Moses had not been the minister of God, he could not, whatever genius we may suppose him to have had, from himself have drawn laws which received all their perfection the instant of their formation : laws which provided against every thing that could happen in the succession of ages, leaving no necessity for change, or even for modification. That is what no legislator has ever done, and what Moses himself could not have done, had he writ simply as a man, and had he not been inspired by the Supreme Being<sup>r</sup>.

I shall observe further, that the alliance made in the desert between God and the Israelites, may be looked upon as a model of the forms they used to observe in contracting these sorts of engagements.

Of all the ceremonies anciently used in solemn alliances, the effusion of blood appears to have been the most important, and the most universal. St Paul says, “ For when Moses had spoken every precept to all the people according to the law, he took the blood of calves and of goats, with water, and scarlet wool, and hyssop, and sprinkled both the book and all the people, saying, This is the blood of the testament which God hath enjoined unto you<sup>r</sup>.

Profane history affords us as plain a proof of this ancient custom, which regarded the shedding of blood, as the seal of all the covenants they contracted. Herodotus, speaking of a treaty of peace concluded between the Medes and the

<sup>r</sup> Voy. Jaquelot. dissertation 3. sur l'existence de Dieu, chap. 4. 7. 8. 9. et traité de la vérité et de l'inspiration des livres sacrés, t. 1. chap. 8.

<sup>r</sup> Heb. chap. 9. ver. 19. Voy. le P. Calmet, *loco cit.* et t. 2. p. 52. et 223.

Lydians, by Cyaxarus and by Aliattes, observes; that with these people, besides the other ceremonies common to them and the Greeks, the contracting parties used to make incisions on the arms, and mutually to suck the blood that ran from them <sup>†</sup>.

We find, even among the savages, an example of those ancient ceremonies used in treaties of peace and alliance. The Spaniards, in 1643, made a treaty of peace with the Indians of Chili; they have preserved the memory of the forms used at the ratification: it is said, that the Indians killed many sheep, and stained in their blood a branch of the cane-tree, which the deputy of the Caciques put into the hands of the Spanish general, in token of peace and alliance <sup>‡</sup>.

As to the manner of ratifying alliances, the custom then was to write two copies of their contracts: the one of the copies they folded up and tied, and sealed it with the seals of the contracting parties: the other was neither folded nor sealed; it remained open, in order that recourse might be had to it on occasion. The orders that Moses received from God with regard to the tables of the law, and the manner in which that legislator executed them, prove the custom of having two copies of the contracts they made. The tables of the law which Moses received on Mount Sinai, was the authentic copy where God had written the conditions of the alliance which he made with his people. God ordered that these two tables should be put into the ark <sup>×</sup>. Moses, at the same time, taking care to write a duplicate of the same commandments, placed it at the side of the ark <sup>‡</sup>, that they might consult it, and easily take copies <sup>‡</sup>.

Such like forms must, without doubt, have been in use, with respect to particular contracts, with all the nations to whom alphabetic writing was then known. We may, by comparing the practice I have just spoke of, with those I

<sup>†</sup> L. 2. n. 74.

<sup>‡</sup> voyage de Frizier, p. 73.

<sup>×</sup> Exod. chap. 25. ver. 16.

<sup>‡</sup> Deut. chap. 31. ver. 26.

<sup>‡</sup> See the commentaries of Father Calmet, and his dissertation on the form of ancient books.



have mentioned in the first part of this work, as having been used originally<sup>a</sup>, perceive the difference which alphabetic writing has introduced, with respect to the measures taken for the security of acts and contracts, among civilized nations.

### C H A P. III.

#### *Of the Egyptians.*

**I**N the first part of this work I have shewn the origin and the constitution of government among the Egyptians; but I have entered into no particulars of the reigns and persons of the monarchs who possessed the throne in the ages we were then treating of: but it will not be so at present. The reign of Sesostris, with whom begins this second part of the history of Egypt, is too remarkable an æra not to demand a particular account of a monarch so famous in antiquity. Of all the kings of Egypt the actions of Sesostris were the most grand and most memorable<sup>b</sup>: he equally signalized himself in peace, in war, and in arts. This prince ascended the throne 1659 years before Christ<sup>c</sup>.

Sesostris was born with all the qualities which can form a great monarch. The education he received was most proper to second these happy dispositions. They say, that the King his father caused to be brought to court all the male infants born in Egypt the same day with his son<sup>d</sup>; he gave to them all, not excepting the young prince, an education perfectly equal and uniform. They were enured to labour and fatigue by all sorts of exercises; they gave them nothing to eat till they had previously made out a considerable walk on foot<sup>e</sup>. Such was the education of Sesostris and all his

<sup>a</sup> Book i. chap. i.

<sup>b</sup> Diod. l. i. p. 62.

<sup>c</sup> I have followed, for the reign of Sesostris, the chronology of P. Tourne- mine. See his dissertat. ad calcem Menochii, in fol. Paris, 1719. dissert. 5.

<sup>d</sup> Diod. l. i. p. 62.

The Natches, a people of South America, have the same custom with respect to the heir-apparent. Lettr. edif. t. 20. p. 202.

<sup>e</sup> Diodorus says, one hundred and eighty stadia; an incredible number, to take them, as is common, twenty-four stadia to a league, for then they must have

his companions. History adds, that they remained inviolably attached to him, and that he chose from this body the principal officers of the army which he raised for his grand expeditions<sup>c</sup>. They were said then to have consisted of 1700<sup>d</sup>: let us pause a little upon this fact.

Diodorus does not ascertain the number of male infants born in Egypt the same day with Sesostris; but he gives room to guess it, by saying, that when that monarch began his conquests, they were then 1700. For one cannot presume, that there were only 1700 male children born in Egypt the same day with Sesostris; and we ought still less to suppose, that in case there were only 1700, they should all come to manhood. Sesostris could not be much less than forty years of age when he undertook his expedition, since he was determined to it by the counsel of his daughter Amyrta<sup>e</sup>. For we know from experience, that out of a thousand children, born at the same time, there will remain but little above one third at the end of forty years<sup>f</sup>. Therefore, as there still remained 1700 of the companions of Sesostris, at the time of his expedition, it must have been, that the number of males born in Egypt the same day with this prince, amounted to more than 5000; and this appears to me highly improbable.

It has been observed, that there are very few more boys born than girls; the whole number of children, then, born the same day with Sesostris, should amount to more than 10,000. Howsoever peopled that country was anciently, how can one persuade one's self that it was so populous, that there could be born on each day more than 10,000

have gone seven leagues and an half. But we know, that the value and measure of the stadia was as different and equivocal among the ancients as the measure of miles and leagues among the moderns. We know that they had short stadia, eleven hundred and eleven to a degree; therefore one hundred and eighty stadia, reckoning two thousand two hundred eighty two fathoms to a league, of twenty-five to a degree, make four leagues and some fathoms. This valuation makes the fact spoken of by Diodorus a little less incredible.

<sup>c</sup> Dio l. p. 64.

<sup>d</sup> Ibid.

<sup>e</sup> Ibid.

<sup>f</sup> Journal des sçavans, Août 1666, art. 1.; Tables de M. Dupre de S. Maur, rapportées, &c. 2d tome de l'hist. nat. du cabinet du Roi, par M. Buffon, p. 59. et suiv.



children? One may, by a comparifon of what happens in our times in France, make this very plain.

In examining the number of children born in Paris in a year, we fee, for example, that in 1750 they amounted to 23,104 <sup>k</sup>, which gives 63 or 64 for each day; and we may obferve that there were a few more boys than girls: thus we may fix the number of males born in Paris each day at 32 or 33. Paris contains about 700,000 fouls <sup>l</sup>. But we ought to take from this number the monks, the nuns, the ecclesiastics, old men, infants, and that immense number of people of all forts who live unmarried. I think I fhall not go too far if I reduce to 400,000 fouls all the perfons capable of having children. We have feen that there were only born in Paris 32 or 33 males each day; we therefore can, after this calculation, determine the number that could be born in Egypt, more efpecially as the Egyptians could only marry one wife <sup>m</sup>.

Following the moft exact researches, Egypt contained under its firft kings 27,000,000 of inhabitants <sup>n</sup>. Every body married in thofe countries; the women were prodigioufly fruitful <sup>o</sup>, and were obliged to bring up all their children, even thofe that fprung from illicit commerces <sup>p</sup>. For this reafon, in order to render the account which I would eftablifh more plain, and make a fort of compenfation, I will calculate the number of children which could be born in Egypt each year from thefe 27,000,000 of inhabitants, whom I may well fuppofe to be the number of perfons capable of having children; and however advantageous that fuppofition may be to Egypt, yet we fhall want many to approach the number which the 1700 companions of Sefoftris neceffarily demand.

In effect, even fuppofing in Egypt 27,000,000 of inhabitants capable of having children, it results from the obfervations which I have juft made, that there could not be

<sup>k</sup> Mercure de France, Janvier 1751.

<sup>l</sup> Voy. le diétion. de la Martiniere, au mot Paris.

<sup>m</sup> Herod. l. 2. n. 92.

<sup>n</sup> Mem. de Trevoux, Jany. 1752. p. 32.

<sup>o</sup> Strabo, l. 5. p. 1018. B. See alfo the notes *ad hunc loc.*

<sup>p</sup> Diod. l. 1. p. 31.

born in a day more than 4320 children; a number sufficiently distant from 10,000, to which the relation of Diodorus necessarily brings us. Above half is then wanting to bring us to an equality. To obtain that, we must suppose more than 60,000,000 of inhabitants in Egypt, a number too excessive ever to be admitted. I hope to be pardoned for this small digression: I return to Sesostris.

This monarch had scarce ascended the throne, when he did all in his power to render Egypt more powerful and more formidable than it had ever yet been: his ambition proposed nothing less than the conquest of the universe. But before he put in execution his vast projects, he began by correcting and perfecting the interior government of his kingdom. I shall speak in its proper place of his grand expeditions, and military regulations. We ought at present only to consider Sesostris in the light of a legislator: his political establishments ought to be our only object.

I said elsewhere, that from all antiquity Egypt was divided into several provinces <sup>a</sup>. Ancient authors agree in this; but we cannot exactly discover what were their precise number before Sesostris. That prince fixed them at thirty-six. He divided all Egypt, say the ancient historians, into thirty-six *nomes*, or districts <sup>r</sup>, and gave the government of them to as many persons, on whom he could depend. They levied the King's taxes, and regulated all the affairs which happened in their jurisdiction <sup>s</sup>.

Sesostris further divided, according to Herodotus, all the lands of Egypt into so many portions as there were inhabitants; each had an equal portion of land for paying a certain rent annually. If the possessions of any one were lessened or damaged by the Nile, he went to the King, and declared the loss he had suffered. The King caused it to be measured, to know how much it was diminished, and proportioned

<sup>a</sup> Part I. book I.

<sup>r</sup> Diod. l. I. p. 64. The term *nome*, used to denominate the different cantons of Egypt, is a term invented by the Greeks when they were masters of it under Alexander. The Romans afterwards called the same districts, *prefectures*, when they brought Egypt under their command in the time of Augustus.

<sup>s</sup> Diod. l. I. p. 64.



the tribute to the quantity of land that remained to the proprietor<sup>c</sup>.

Of all the political institutions attributed to Sesostris, the most remarkable, in my opinion, is the distribution he made of all his subjects into different classes or states<sup>a</sup>. They reckoned in Egypt seven different orders, who took their names from the profession which each order exercised<sup>x</sup>. By this establishment the different professions of each member of the state were separated and distinguished from each other. The Egyptians could not take upon them indifferently the profession for which they had the greatest liking; the choice was not left to their disposal: the children were obliged to be of the profession of their fathers<sup>y</sup>. They severely punished whoever quitted it to embrace another<sup>z</sup>. We shall again have occasion to speak of this political institution. I reserve likewise for the article of war the military laws published by Sesostris. The Egyptians attribute to this prince the greatest part of the rules concerning the troops and the discipline of armies<sup>a</sup>.

Sesostris has been placed in the number of the most famous legislators<sup>b</sup>; the Egyptians, to shew how perfectly that prince knew the science of government, said, that he was taught by Mercury politics and the art of governing<sup>c</sup>. They always held his memory in the highest veneration, as one may judge from what I am going to relate.

When Egypt, many ages after Sesostris, was fallen under the dominion of the Persians, Darius, father of Xerxes, would have his statue placed above that of this prince. The high priest, on the part of the whole college assembled on the subject, opposed the design of Darius, representing to him, that he had not yet surpassed the actions of Sesostris. Darius was not offended at the liberty of the high

<sup>c</sup> L. 2. n. 109.

<sup>a</sup> Arist. polit. l. 7. c. 10. init.; Dicaearchus apud schol. Apollon. Rhod. l. 4. v. 273.

<sup>x</sup> Herod. l. 2. n. 163.

<sup>y</sup> Plato in Tim. p. 1044.; Isocrat. in Busirid. p. 328. 329.; Diod. l. 1. p. 86.

<sup>z</sup> Diod. *loco cit.* <sup>a</sup> Diod. l. 1. p. 106. <sup>b</sup> Elian. var. hist. l. 12. c. 4.

<sup>c</sup> Arist. polit. l. 7. c. 10.; Diod. l. 1. p. 105. 106.

priest<sup>d</sup>. He only answered, that he would endeavour to attain to the glory of that hero, if he lived to his age<sup>e</sup>.

Sesostris died after a reign of 33 years<sup>f</sup>; his son succeeded him<sup>g</sup>. Historians agree in saying, that he did nothing remarkable<sup>h</sup>. He was, in that, like the rest of the monarchs who possessed the throne of Egypt, from Sesostris to Bochoris, whose reign falls in the year 762 before Christ. We do not know positively the names, and still less the actions of most of these princes. Egypt therefore will supply us with nothing for our researches for a long succession of ages.

#### C H A P. IV.

##### *Of Greece.*

**I** Need not repeat what I have said, in the first part of this work, of the state of the ancient inhabitants of Greece. We there have seen to what a pitch they were originally rude and barbarous. The reader will not have forgot, that this part of Europe owed the first knowledge of science it possessed to strangers, who going out of Egypt, formed there a very extensive empire, though of a very short duration. Other colonies passed successively into Greece. I have not indeed been very particular about their first establishments. Marking the æra, and telling the names of the authors of them, was all that I had to do.

These first colonies had done little or nothing to civilize the Greeks. These people did not begin to be polished till near the times we are at present engaged in. This happy change was the work of new colonies which came then from Egypt and Phenicia into Greece. The conductors of those last emigrations taught the ancient inhabitants of the country to use more form and more order in their societies. They founded different kingdoms, which subsisted a long time with great reputation. We will run over the history

<sup>d</sup> Herod. l. 2. n. 110.; Diod. l. 1. p. 63.

<sup>e</sup> Diod. *ibid.*

<sup>f</sup> Diod. l. 1. p. 69.

<sup>g</sup> *Idem*, *ibid.*; Herod. l. 2. n. 111.

<sup>h</sup> *Idem*, *ibid.*



of them, observing the order of time, and the importance of the subjects.

## ARTICLE I.

### ATHENS.

**I**N the preceding volume I have touched upon the origin of the kingdom of Athens. I there remarked, that Attica had not been exposed to the same commotions as the other governments of Greece: The inhabitants nevertheless had not profited from the tranquillity they enjoyed, so much as to be any way polished. The Athenians remained a long time barbarous and rude, ignorant of the most necessary arts, living without laws, and without discipline. Attica was nothing before the foundation of Athens.

That famous city, to which all Europe owes the origin of its laws, its arts and sciences; Athens, the seat of politeness and learning, the theatre of valour and eloquence, the public school of all who aspired to knowledge; Athens more famous, by the genius of its inhabitants, than Rome by its conquests, owed its foundation to Cecrops, originally of Sais, a city of the Lower Egypt<sup>k</sup>.

Cecrops arrived in Attica 1582 years before Christianity<sup>l</sup>. He was well received by Acteus, who then reigned in that district. That prince even gave him his daughter in marriage; and after the death of Acteus Cecrops succeeded him<sup>m</sup>. As soon as he ascended the throne, he laboured to polish his subjects, by acquainting them with the advantages of living in society. When Cecrops came into Attica, that part of Greece was a prey to the ravages and incursions of pirates and robbers. The people of Boeotia, whom they then called *Æones*, desolated the country by perpetual incursions<sup>n</sup>: the Carians on the sea-coast were always pillaging<sup>o</sup>. Cecrops

<sup>l</sup> Part 1. book 1.

<sup>k</sup> Diod. l. 1. p. 33.; African. apud Euseb. praep. evang. l. 10. c. 10. p. 491.

<sup>l</sup> Marm. Oxon. ep. 1.

<sup>m</sup> Apollod. l. 3. p. 192.; Paus. l. 1. c. 2.

<sup>n</sup> Philicor. apud Strab. l. 9. p. 609.

<sup>o</sup> Idem, ibid.

represented to his new subjects, that the only way to resist such violences, was to assemble and unite their forces. He shewed them to build houses; and founded a city, which he called after himself *Cecropia* <sup>p</sup>. Lastly, to put his new establishment in absolute security, he built a fortress on a rising ground, where they afterwards built the temple of Minerva <sup>r</sup>. Such is the epocha of the birth of Athens.

The name of that city is famous in ancient story, by an event that is strangely disfigured by fable, but which, however, deserves to be related, on account of the remarkable change it occasioned in the form of government.

Antiquity says then, that Cecrops, in building the walls of Athens, saw start out of the earth in a moment an olive-tree and a fountain. Struck with these prodigies, he sent to Delphos to ask of Apollo what they signified, and what he was to do. The oracle answered, that Minerva, who was designed by the olive-tree, and Neptune, by the water, claimed reciprocally the right of naming the city they had built, and that the people were to decide the difference. On this answer Cecrops assembled all his subjects, men and women; for, at that time, the women had a right to vote in public deliberations. Minerva carried it only by one vote; and that, they say, was a woman's <sup>r</sup>.

A little while after, Attica having been greatly damaged by the waters, the Athenians imagined that Neptune was enraged, and wanted to be revenged. To appease him, they resolved to punish the women on account of the preference they had given to Minerva; they determined, that for the future

<sup>p</sup> Apollod. l. 3. p. 192.; Plin. l. 7. sect. 57. p. 413.

<sup>q</sup> Thucyd. l. 2. p. 110.; Plin. *loco cit.* Anonym. de incredib. c. 1. p. 85.; Valer. Maxim. l. 5. c. 3.; Exern. n. 3. p. 465.

<sup>r</sup> Varro apud August. de civit. Dei, l. 18. c. 9.

We ought not to be surprised, that, in the first ages, the women among the Greeks were admitted into their public assemblies, and had a right to vote: they enjoyed the same advantage among many other nations of antiquity. The women were admitted in our national assemblies by our ancestors the Gauls, and they took no resolution without their advice. It was the same with the ancient people of Germany. Plut. t. 2. p. 246. C.; Tacit. de morib. Germ. n. 8.; Polyæn. Strat. l. 7. c. 50.



they should not be admitted into the assemblies, nor any child from that time bear the name of its mother <sup>r</sup>.

Some ancients say, that Cecrops built twelve cities, or, to speak more properly, twelve towns <sup>r</sup>: but it appears to me much more likely to give the foundation of these twelve cities or towns to Cecrops II. the seventh king of Athens. This is the opinion of many of the most esteemed modern critics <sup>u</sup>. It was not practicable in those early times to found twelve towns at the same time; it was enough for Cecrops to be able to form one, with a people so rude as the Athenians were then. One may presume, that the founding of Athens was soon followed by that of some other cities or towns. We are so much the more authorised to believe it, as the Athenians were looked upon as the first people of Greece who established capital cities <sup>x</sup>.

One of the first cares of Cecrops was the institution of public worship rendered solemnly to the Deity. He applied himself to regulate the ceremonies of religion. Not but the first inhabitants of Greece had some sort of worship, but it appears that they had no sufficiently clear and distinct idea of the Divinity, and of the homage due to him <sup>y</sup>. We therefore ought to look upon Cecrops as the first who gave any certain form to the religion of the Greeks <sup>z</sup>. Pausanias says, that this prince regulated the worship of the gods and religious ceremonies with great wisdom <sup>a</sup>. He taught the Greeks to call Jupiter the Supreme God, or rather Most High <sup>b</sup>. He first erected an altar at Athens <sup>c</sup>, and forbade them to sacrifice to the gods any thing that had life <sup>d</sup>.

<sup>r</sup> Varro apud August. *loco cit.*

One may see the different explications given to this historical fable, Vossius de idol. l. 1. c. 15. Le P. Tournemine, Trevoux, Janvier 1708. L'Abbé Bannier explicat. des fables, t. 4. p. 20.

<sup>u</sup> Philicor. apud Strab. l. 9. p. 609.

<sup>x</sup> Meurs de regn. Athen. l. 2. c. 14.; Potter, Archaeol. Gr. l. 1. c. 2. p. 7.

<sup>y</sup> Stephan. *voce* Ἀθῆναι, p. 28.

<sup>z</sup> Voy. Bannier explicat. des fables, t. 6. p. 248. & suiv.

<sup>a</sup> Isidor. orig. l. 8. c. 11.

<sup>b</sup> L. 8. c. 2. *init.*

<sup>c</sup> Ἰππάρχος, ibid.; Euseb. praep. evang. l. 10. c. 9.

<sup>d</sup> Euseb. ibid.; Macrobian. Sat. l. 1. c. 10.

<sup>e</sup> Paus. l. 8. c. 2. *init.*

There is on this subject a very remarkable difference of opinion among ancient writers; but the contradiction is only in appearance. Meursius has sufficiently proved it, de regib. Athen. l. 1. c. 9.



To secure the foundations of his new establishment, and to finish the civilizing of his people, Cecrops laboured to give them laws. The first and most important was that of marriage <sup>e</sup>. Before Cecrops the Greeks had no idea of conjugal union: they gratified their desires indiscriminately. The children which sprung from these irregular commences, never could know who were their fathers, and could only know their mothers, whose name they always bore <sup>f</sup>. Cecrops shewed the Athenians the inconveniencies arising to society from such an abuse. He established the laws and rules of marriage in the form they were practised in Egypt, that is to say, that one man should only have one woman <sup>g</sup>.

The laws would not have been of any great service, if he had not had persons charged with the execution of them. It was in this view that Cecrops established courts to determine the differences that might happen among his subjects. The Athenians found this establishment so wise and so necessary, that afterwards each town of Attica had its magistrates to preserve peace and good government, and had places set apart solely for that business <sup>h</sup>. Of all the tribunals set up by Cecrops, the most famous was that afterwards called *Areopagus* <sup>i</sup>. We shall speak more particularly of it under the reign of Cranaüs, successor of this prince.

Cecrops likewise distributed into four tribes all the inhabitants of Attica <sup>k</sup>. It is probable he made this division on the plan of the distinction of professions established in Egypt by Sesostris <sup>l</sup>. We shall, in the sequel, have an opportunity of seeing many other conformities between the policy of the Athenians and Egyptians.

<sup>e</sup> Justin. l. 2. c. 6.; Athen. l. 13. *init.*; Suidas, *voce* *ἄρρα*. t. 3. p. 189.

<sup>f</sup> Varro apud August. de civ. Dei. l. 18. c. 9.; Suidas, *loco cit.*

<sup>g</sup> Herod. l. 2. n. 92.; Suidas, *loco cit.*

<sup>h</sup> Thucyd. l. 2. p. 108.; Plut. in Thes. p. 11. A.

<sup>i</sup> The ancients are divided about the time of fixing the institution of the Areopagus: but since the discovery of the Arundelian marbles, we can ascribe this establishment to none other but to Cecrops; since, in the reign of Cranaüs his successor, that tribunal was in such high reputation, that Neptune and Mars chose them arbitrators of their difference. Marm. Oxon. ep. 3.

<sup>k</sup> Pollux, l. 8. c. 9. segm. 100. Others refer this institution to the reign of Erechtheus.

<sup>l</sup> See Diod. l. 1. p. 33.

The manner of burying the dead has always been looked upon as one of those customs which distinguish policed people from nations absolutely barbarous and savage. All legislators have taken particular care to prescribe to their people the rules which ought to be observed on these sorrowful occasions <sup>m</sup>. Antiquity attributes to Cecrops the institution of funeral ceremonies in Greece. Cicero says, that this prince introduced the custom of burying the dead, and of strewing corn upon their graves <sup>n</sup>.

In those remote times kingdoms were of very small extent; one city, on which some villages and some leagues of territory depended, often comprised the whole domain of these first kings. By what an ancient author relates of the roll of the inhabitants of Attica, taken by Cecrops, one may judge of the power and the strength of those ancient kings. Cecrops, to know the number of his subjects, ordered that each should bring a stone to a certain place which he appointed; when all had obeyed, they counted the stones, and found twenty thousand <sup>o</sup>.

This is all that history informs us of the actions of Cecrops, who reigned fifty years after his arrival in Greece <sup>p</sup>. Fable has made this prince a monster composed of two different species. The ancients have assigned many motives for this allegory. Some have explained it from the institution of marriage, which in some sort composed a man of two different bodies: others have explained it from his foreign birth: others from the largeness of his body: and, lastly, some because he spoke two languages, Egyptian and Greek, and that he knew the manners of both nations <sup>q</sup>.

Cecrops had, by his marriage with the daughter of Acteus, only one son, named *Erysiæthos* <sup>r</sup>. This prince died before his father <sup>s</sup>. Cranaüs, a Greek, and an Athenian by birth <sup>t</sup>,

<sup>m</sup> Plato de repub. l. 4. p. 636. B. De leg. l. 1. p. 774. A.

<sup>n</sup> De legib. l. 2. n. 25. t. 3. p. 158.

The Greeks afterwards thought proper to burn their dead. *Vide* Hom. Iliad. et Odyss. *passim*.

<sup>o</sup> Philicor. apud Scholiast. Pindar. Olymp. ode 9. ver. 68. p. 109.

<sup>p</sup> Suidas in *Προμνηθ.* t. 3. p. 189. <sup>q</sup> See Marsh. p. 109.

<sup>r</sup> Paus. l. 1. c. 2. p. 7. <sup>s</sup> Idem, *ibid.*

<sup>t</sup> Apollod. l. 3. p. 193.; Paus. *loco cit.*



finding himself, at the death of Cecrops, the most eminent and most powerful man in the city, seized on the throne. We should have had little to say of his reign, if the marbles had not placed under this prince two events very famous in antiquity.

The first is the judgment given by the Areopagus between Neptune, sovereign of a part of Thessaly, and Mars, who likewise reigned over many districts of that province. The murder of Hallirothius, son of Neptune, killed by Mars, made these two kings appeal to the judgment of the Areopagus. As this judgment is the first and the most celebrated that was given by this grand assembly<sup>u</sup>, it is right to relate it.

The Areopagus, instituted by Cecrops on the plan of the tribunals of Egypt, was not long of rising to very great reputation. Strangers, even sovereigns, came to submit to its decisions. It was principally for the examination of murders, that the Areopagus had been established<sup>x</sup>. Hallirothius, son of Neptune, having abused Alcippa, the daughter of Mars, this prince, enraged at so scandalous an affront, revenged himself by the death of Hallirothius. This violent proceeding might have had terrible consequences. To avoid which, Mars and Neptune submitted their difference to the decision of the Areopagus. The senate being assembled, after having heard the reasons on both sides, they determined, that the revenge of Mars did not exceed the outrage he had received in the person of his daughter<sup>y</sup>. This judgment was found so just, that to extol the abilities of those who had given it, they said that twelve gods had mingled among the number of the senators<sup>z</sup>. It was on this occasion, that the Areopagus received the name which it has always borne since<sup>a</sup>.

<sup>u</sup> Marm. Oxon. ep. 3.; Plin. l. 7. sect. 57. p. 415.; Paus. l. i. c. 21.

<sup>x</sup> Solon considerably extended the jurisdiction of this court, he gave it the inspection of the whole state.

<sup>y</sup> This was the first process for murder which was judged at Athens. Paus. l. i. c. 21.; Plin. l. 7. sect. 57.; Liban. declam. 22. 23.

<sup>z</sup> Apollod. l. 3. p. 193.

<sup>a</sup> Marm. Oxon. ep. 3.; Euseb. chron. l. 2. p. 36.; Serv. ad Georg. l. i. v. 18.

The ancients do not entirely agree about the etymology of the word *Areopagus*. Voy. les. mem. de l'acad. des inscrip. t. 7. mem. p. 175.



At the beginning, the members of this famous tribunal were chosen from the most prudent and judicious personages of the city. Authors do not agree as to the number of judges which composed it <sup>b</sup>; which makes me believe, that it varied at different times. The edifice where the Areopagus assembled in the beginning, was very plain and mean <sup>c</sup>. It was placed in the middle of Athens, on a hill, situated opposite to the citadel <sup>d</sup>. That position must have been very inconvenient for old men, who could not get up, but with difficulty <sup>e</sup>. This determined the Areopagi to remove their tribunal to a part of the city called *the King's portico* <sup>f</sup>. It was a place exposed to all the injuries of the weather <sup>g</sup>. The judges repaired thither in great silence. As soon as they were all met, they shut them up in a circle, marked by a sort of rope with which they inclosed them <sup>h</sup>. They sat there on seats of stone, holding in their hand, as a mark of their character, a sort of baton, made in the form of a sceptre <sup>i</sup>.

Homer shews the antiquity of these usages. Among the different subjects represented on the shield of Achilles, we see the judges employed in the function of their office. The poet painted them sitting in a circle, in the midst of a public square, upon finely polished stones, and bearing a sceptre in their hand when they gave their opinions <sup>k</sup>. There is room to believe, that, in this picture, Homer has conformed himself to the practice of the Areopagus. Pausanias says the same of this ancient simplicity: when speaking of this tribunal, he says, in the court were seen two sorts of silver stones, cut in form of seats or benches <sup>l</sup>. The expression he uses is remarkable; he calls them, *silver stones* <sup>m</sup>; a proof that, in those early times, stones were the only seats they used in the Areopagus <sup>n</sup>.

<sup>b</sup> Voy. les. mem. de l'acad. des inscript. t. 7. p. 198.

<sup>c</sup> Vitruv. l. 2. c. 1.

<sup>d</sup> Herod. l. 8. n. 52. ; Val. Max. l. 5. c. 3. p. 467.

<sup>e</sup> Acad. des inscript. t. 7. mem. p. 195.

<sup>f</sup> Ibid. p. 190. <sup>g</sup> Ibid.

<sup>h</sup> T. 7. mem. p. 190. 196.

<sup>i</sup> Suid. t. 1. p. 411.

<sup>k</sup> Iliad. l. 18. v. 497. &c.

<sup>l</sup> L. 1. c. 28. p. 68.

<sup>m</sup> Ἀργυροὺς λίθους.

<sup>n</sup> Spon pretends, that the remains of this ancient tribunal are still to be seen at Athens. Voyage de Grece, t. 2. p. 451.



In order that nothing might take off the attention of the Areopagi, they never sat in judgment, but during the night. For this reason, says Athenæus, that none might know either the number or the faces of the Areopagi \*. Those of the ancients who have inquired into the reasons of this practice, have delivered many motives which I think more ingenious than solid †. It seems to me, that this was a necessary consequence of the custom, that all tribunals had of judging criminals accused of murder, *sub dio, in the open air* ‡. It is plain, that, without that precaution, the croud and noise of the people, which it would not be possible to hinder during the day time, might take from the magistrates, assembled in a place only inclosed by a cord, a great part of the attention which matters of such importance as murder require.

I have said, that the Areopagus was formed by Cecrops on the model of the tribunals of Egypt. We have seen that the parties were not allowed to defend themselves by orators in Egypt †. The maxims of the Areopagus, at its institution, were, in this particular, very conformable to those of the Egyptians. In the earliest times, the parties were obliged to plead their causes themselves †; the eloquence of orators was looked upon as a dangerous talent, and was only proper to give to crimes the appearance of innocence. Yet the severity and exactness of the Areopagus, in this particular, was softened in time; they permitted the accused to make use of the assistance and help of orators †; but they were not suffered, in pleading, ever to lose sight of the main question \*. In consequence of this restriction, they could neither make use of exordium, nor peroration, nor any thing, in a word, that could excite the passions, and seize on the admiration or pity of the judges ‡. The orators were obliged to confine themselves solely to what belonged to their cause; otherwise

\* L. 6. p. 255. † Ibid. See also Lucian in Hermot. n. 64. t. 1. p. 805.

‡ See Antiph. orat. *de caede Herodis*.

† Part the first, book 1. art. 4.

† Sext. Empiric. adv. rhet. l. 2. p. 304.

† Lucian. in Anacharsi, n. 19. t. 2. p. 889.

‡ Arist. rhet. l. 1. c. 1. *init.*; Lucian *ubi supra*.

‡ Pollux, l. 8. c. 10. segm. 117.; Quintil. instit. l. 6. c. 7.



silence was imposed upon them by a herald <sup>y</sup>. This manner of pleading, before the Areopagus, one may say, gave the tone to the bar of Athens, and extended itself to the discourses that were pronounced at the other tribunals. It is for this reason, that the beginning and the end of the orations of Demosthenes appear to us so simple and so destitute of ornaments <sup>a</sup>.

As to the emoluments of the judges, there is room to doubt whether they had any originally. Those they had afterwards were very small. They had at first only two oboli a cause, and afterwards three <sup>b</sup>; that is, four sols at most, an obolus being about fifteen deniers of French money <sup>c</sup>. The length of the proceedings made no alteration; and when the decision of an affair was put off to the next day, the Areopagi had only one obolus for that day. Such was the Areopagus, whose integrity and wisdom is too universally known to be insisted upon. History never speaks of this august assembly but to boast of its abilities, and make encomiums on it. Demosthenes does not fear to say, that it was unheard of that any one had complained of an unjust sentence given by that tribunal <sup>d</sup>.

The second event which has made the reign of Cranaüs memorable, was the deluge of Deucalion <sup>e</sup>. Nothing is more celebrated in the Grecian history than that event. Deucalion is looked upon as the restorer of the human race; and really was the stock of a numerous posterity who reigned in many parts of Greece. But the deluge which happened in his time was only a great inundation caused by some rivers in Thessaly, whose course was interrupted by the high mountains with which that country is environed: this joined to the vast quantity of rain which

<sup>y</sup> Arist. Quint. Lucian. *loco cit.*

<sup>a</sup> Epilogos illi mos civitatis abstulit. *Quintil. inst. l. 10. c. 1.*

<sup>b</sup> Aristophan. in *Plut.* v. 329. in *Equit.* v. 51. See the note of Casaubon, p. 77. and those of Spanheim upon *Plutus*, p. 251. et les mem. de l'acad. des inscript. t. 7. mem. p. 192. & 195.

<sup>c</sup> Ibid. p. 195.

<sup>d</sup> In *Aristocrat.* p. 735. F.

<sup>e</sup> *Marm.* ep. 4.

fell that year, overflowed the whole country<sup>f</sup>. It even appears that the inundation extended to the borders of Mount Parnassus, where Deucalion had established the seat of his dominions<sup>g</sup>.

Yet most of the ancient writers speak of the deluge of Deucalion as an universal inundation, which drowned the whole human race, except this prince and Pyrrha his wife<sup>h</sup>. It is from this tradition that in the Grecian antiquity Deucalion passes for the first who built cities and raised temples to the gods. They likewise say that he was the first King<sup>i</sup>. Some have even pretended, that after this deluge the earth remained a long time desert and uncultivated<sup>k</sup>; that the inundation had destroyed the trees, corrupted the seeds, and obliterated universally all the monuments of arts and sciences<sup>l</sup>. This is the reason without doubt that some modern writers have advanced, that, after the deluge of Deucalion, Greece was totally desert and abandoned, and was not cultivated for more than three ages after this flood<sup>m</sup>.

All these facts, so far from being proved, are entirely contradicted by history. Greece, from the moment it began to be peopled, never wanted inhabitants. The succession of the Kings of Argos, of Athens, of Sicyon, was never interrupted. We ought then to look upon the deluge of Deucalion as a local inundation, which might destroy a great many people in the country where it happened, but does not appear to have had any other consequences. Thus the marbles of Paros explain it. They say plainly, that Deucalion having been saved from the flood, retired to Athens, where he sacrificed to Jupiter Phyxius<sup>n</sup>.

Cranaüs only possessed the throne nine years. He was drove away by Amphyction to whom he had given his daughter in marriage<sup>o</sup>. Some make this Amphyction son

<sup>f</sup> Marm. ep. 2.; Bannier explic. des fables, t. 6. p. 75.    <sup>g</sup> Marm. ep. 2.

<sup>h</sup> Apollod. l. 1. p. 19. 20.; Ovid. met. l. 1. v. 318. &c.

<sup>i</sup> Apollon. Rhod. l. 3. v. 1085.    <sup>k</sup> Plato de leg. l. 3. p. 804.

<sup>l</sup> Diod. l. 3. p. 232. l. 5. p. 376.-397.-398.

<sup>m</sup> Acta Erudit. Lips. an. 1691. p. 100.; Buffon, hist. nat. t. 1. p. 201.

<sup>n</sup> Marm. Oxon. ep. 4.    <sup>o</sup> Paus. l. 1. p. 7. 8.



of Deucalion, others say he was only his grandson <sup>r</sup>. Neither of these opinions is to be received. The marbles distinguish very plainly Amphyction son of Deucalion, from Amphyction King of Athens <sup>s</sup>. They make them cotemporaries <sup>t</sup>. We are ignorant of the extraction of the King of Athens. We are not better instructed in the manner of his government: but there happened in his reign two events of very great consequence in the Grecian history, the establishment of the Amphyctions, and the arrival of Cadmus. I shall at present only speak of the first.

At the time that Amphyction enjoyed the fruits of his usurpation at Athens, Amphyction, son of Deucalion, reigned at Thermopylæ <sup>r</sup>. This prince, full of wisdom and the love of his country, seriously reflected on the state of Greece in his time. It was then divided into many independent sovereignties. This division might cause disputes, and occasion intestine wars, which might subject the nation to the enterprizes of barbarous people, by whom they were surrounded, and who could easily overwhelm them <sup>t</sup>.

To prevent so great an evil, Amphyction thought of uniting by a common tie all the different states of Greece; to the end, says an ancient writer, that being always strictly united by the sacred bonds of friendship, they might labour together to maintain themselves against the common enemy, and make themselves formidable to the neighbouring nations <sup>u</sup>. In this view he formed a league among twelve Greek cities, whose deputies were to meet twice a-year at Thermopylæ <sup>x</sup>. This famous assembly was called *the council of the Amphyctions*, from the name of the institutor <sup>y</sup>.

Each city sent two deputies, and had of consequence two votes in their deliberations, and that without distinc-

<sup>r</sup> Acad. des inscript. t. 3. mem. p. 195.    <sup>s</sup> Marm. ep. 5.

<sup>t</sup> Ibid. See also Apollod. l. 1. p. 22.    <sup>u</sup> Marm. ep. 5.

<sup>x</sup> Dion. Halicarn. l. 4. p. 229.    <sup>y</sup> Ibid.

<sup>z</sup> Herod. l. 7. n. 200.; Æschin. de falsa legat. p. 401.; Strabo, l. 9. p. 643.; Paus. l. 10. c. 8. *init.*

<sup>y</sup> Marm. ep. 5.; Paus. *loco cit.* The Greek historians are not agreed as to the number of people of which the assembly of the Amphyctions was composed. See les mem. de l'acad. des inscript. t. 3. mem. p. 191.

tion, and without the most powerful having any prerogative or pre-eminence <sup>2</sup>: the liberty which these people valued themselves upon, required that all should be upon an equal footing.

The oath which the deputies took before their instalment, is too remarkable to be passed over. Æschines has preserved the form <sup>a</sup>. It was comprehended nearly in these terms. “ I swear never to overturn any of the cities  
“ honoured with the rights of the Amphyctionate, and not  
“ to change the course of its rivers, neither in time of  
“ peace, nor war. And if any people come upon such  
“ an enterprize, I engage myself to carry war into their  
“ country, and to erase their cities, their towns, and vil-  
“ lages. And further, if I find any one so impious as to  
“ dare to steal any of the offerings consecrated in the tem-  
“ ple of Apollo, or to be any wise aiding in the commission  
“ of that crime, either by giving him an helping hand, or  
“ assisting with his counsels, I will employ my feet, my  
“ hands, my voice, in a word, all my strength, to revenge  
“ the sacrilege.” This oath was accompanied with terrible imprecations and execrations.

We should look on the assembly of the Amphyctions as the session of the states-general of Greece. The deputies who composed that august company, represented the body of the nation, with full power to concert and resolve whatever appeared to them to be most advantageous to the common cause. Their authority was not limited to judge of public affairs in the last resort; it extended even to the raising of troops, to force rebels to submit to the execution of their sentences. The three religious wars undertaken at different times by order of the Amphyctions, are a striking proof of the extent of their authority <sup>b</sup>.

It was esteemed a great honour among the Greeks to have a right to send deputies to this kind of states-general. The least mark of infidelity to their country was sufficient to hinder their admission. The Lacedemonians and the Pho-

<sup>2</sup> Æschin. de falsa legat. p. 401.    <sup>a</sup> De falsa legat. p. 401. B.

<sup>b</sup> Acad. des inscript. t. 3. mem. p. 192. 193.



cians were excluded for a time <sup>c</sup>. They could not get readmitted till they had made amends by plain proofs of service and attachment for the fault which they had committed.

Great politicians have always found that the best way to give duration to the establishments they formed, was to unite them with religion. With this view, Amphyction charged the council, which bore his name, with the care of protecting the temple of Delphos, and of having a watchful eye over the riches treasured there <sup>d</sup>. But his principal object was, as we have shewn just now, to establish between the different states of Greece, the harmony that was necessary for the preservation of the body of the nation, and to form a centre of union which might assure for ever a reciprocal correspondence among these different people.

The effect answered the care and expectation of the prince. From that moment the interests of their country became common among all the people of Greece. The different states of which that part of Europe was composed, only formed one and the same republic; a union which afterwards made the Greeks formidable to the Barbarians <sup>e</sup>. It was the Amphyctions who saved Greece in the time of the invasion of Xerxes. It is by means of this association that these people have done such great actions, and have supported themselves so long a time with the highest distinction. Europe has models of the same associations. Germany, Holland, and the Swiss cantons, form republics composed of many states.

Amphyction therefore ought to be looked upon as one of the greatest men Greece ever produced, and the establishment of the council of Amphyctions, as the greatest masterpiece in politics. We must place in the same rank the institution of the Olympic games, whoever was the author. We cannot in general give too high encomiums to the Grecian legislators, for the variety of methods they

<sup>c</sup> Paus. l. 10. c. 8. *init.*

<sup>d</sup> Acad. des inscript. t. 3. mem. p. 191.

<sup>e</sup> Æchin. de falsa legat. p. 401.

invented to unite and league that infinite number of small states which composed the Greek nation.

I shall pass over the reigns of Erichthonius and Pandion, to come to that of Erechtheus, under whom the marbles place one of the most memorable events in Grecian antiquity. That is, the arrival of Ceres in Greece <sup>f</sup>: an æra so much the more famous because it was to that time that all the ancients refer the establishment, or rather, the re-establishment of agriculture and civil laws in Greece. I shall treat in the sequel of these articles in a particular manner <sup>g</sup>.

The reign of Erechtheus is likewise remarkable for some acts relative to the ancient form of government established in Greece. Till the time of this prince, the kings had always united in their own person the sceptre and the priesthood. Erechtheus, on succeeding Pandion, gave up some of his rights in favour of his brother called Butes. He kept the sovereignty, and gave to Butes the priesthood of Minerva and of Neptune <sup>h</sup>. This is the first example we find in the Grecian history of the division of the secular and ecclesiastical power.

Erechtheus reigned fifty years; he was killed in a war he had undertaken against the Eleusinians <sup>i</sup>. The event however was to the advantage of the Athenians, to whom those of Eleusis were obliged to submit <sup>k</sup>. The Athenians had given the command of their army to Ion son of Xuthus, and great-grandson of Deucalion <sup>l</sup>. They were so pleased with the services Ion had done them in that war, that they intrusted him with the care and administration of the state <sup>m</sup>. There are even authors who say, that, on the death of Erechtheus, his mother's father, Ion ascended the throne <sup>n</sup>. Yet we do not find the name of this prince in any of the catalogues of Athenian kings <sup>o</sup>.

<sup>f</sup> Marm. Oxon. ep. 12.      <sup>g</sup> See. art. 8. book 2. sect. 2. chap. 1.

<sup>h</sup> Apollod. l. 3. p. 198.      <sup>i</sup> Paus. l. 1. c. 38.      <sup>k</sup> Ibid.

<sup>l</sup> Herod. l. 8. n. 44.; Paus. l. 2. c. 14.

<sup>m</sup> Vitruv. l. 4. c. 1.; Strabo, l. 8. p. 588.

<sup>n</sup> Euripid. *in* Ione, v. 577. and Canon *apud* Phot. narrat. 27. r. 438.

• See Paus. l. 7. *init.*



But it is certain that Ion had a very great authority. He was the first who introduced into Greece the custom of separating into different classes, the different professions to which the citizens apply themselves in a state. He distributed all the people of Athens into four classes <sup>p</sup>. One included the labourers, another the artificers, the third was composed of the ministers of religion, and the military <sup>q</sup> composed the fourth.

Before we finish what concerns the reign of Erechtheus, I think it ought to be remarked, that, under this prince, Attica was already so fully peopled, that not being able to subsist all its inhabitants, the Athenians were obliged to send different colonies to Peloponnesus <sup>r</sup>, and the isle of Eubœa <sup>s</sup>.

From Erechtheus to Theseus, the history of Athens offers us nothing remarkable nor interesting. The age of Theseus is that of the ancient heroes of Greece. This prince without doubt was one of the most famous and most distinguished of them; but it is not his exploits, but his administration, and the changes he made in the government of Athens, which ought to employ us at present.

We have before seen that Cecrops the Second founded twelve principal towns in Attica. The inhabitants of these towns lived entirely separate from each other <sup>t</sup>. Each division had its own jurisdiction, and its particular polity, and that independent even of the sovereign <sup>u</sup>. This arrangement made each town form, as it were, a particular body separate from the state; it was not easy to assemble the inhabitants, and to unite them when they were to deliberate on their safety, and the interest of the common cause. Besides, they were pretty frequently at war

<sup>p</sup> Strabo, l. 8. p. 588.

<sup>q</sup> This is the sense in which I think we ought to take the word *φύλακες*, which is here used by Strabo. This meaning is authorised by Plato, who, in his republic, always uses this word, to design military people. See Arist. polit. l. 2.

<sup>r</sup> Strabo, l. 8. p. 585.

<sup>s</sup> Paus. l. 1. c. 5. p. 13. It is called at present *Negropont*. It is the largest of the isles of the Archipelago.

<sup>t</sup> Thucyd. l. 2. p. 110. <sup>u</sup> Ibid.

with each other <sup>x</sup>, often even against their sovereign <sup>y</sup>.

The first use that Theseus made of his authority, was to remedy this abuse. Knowing how to join prudence with resolution, he broke all the magistrates and all the particular assemblies of each district <sup>z</sup>. He even caused all the halls where they held their councils, and the edifices where they administered justice, to be demolished <sup>a</sup>. After this reform all the inhabitants of Attica were subjected to the jurisdiction of the magistracy of Athens. All political power and authority was centered in that capital <sup>b</sup>. Thus when they were to take any general resolution, the inhabitants of the country were obliged to leave their villages and repair to Athens <sup>c</sup>. The assemblies of the nation were only held in the city, which by that means became the centre of government, of which every one partook by an equal right who bore the name of Athenian. For the inhabitants of the country had the same right to vote as those of the city; and in that sense one may truly say that all the Athenians were really citizens of one and the same city <sup>d</sup>.

To enlarge and people the capital, Theseus invited all the country-people to repair thither <sup>e</sup>, offering them the same rights and the same privileges that were enjoyed by the citizens <sup>f</sup>; but at the same time, lest this croud of people gathered from all parts, should bring confusion and disorder into his new establishment, he thought proper to divide the inhabitants of Athens into three classes. We have already seen that anciently, under the reign of Erechtheus, they had divided the Athenians into four classes:

<sup>x</sup> Plut. in Thes. p. 10. F.    <sup>y</sup> Thucyd. l. 2. p. 110.    <sup>z</sup> Ibid.

<sup>a</sup> Plut. in Thes. p. 11. A.

<sup>b</sup> Thucyd. *loco cit.*; Isocrat. Encom. Helen p. 312.; Plut. *loco cit.*

<sup>c</sup> Thucyd. l. 2. p. 110.    <sup>d</sup> Isocrat. Encom. Helen. p. 312.

<sup>e</sup> Isocrat. Plut. *loco cit.*

<sup>f</sup> Plut. p. 11. It is for want of sufficient reflection that most of the modern writers have advanced that Theseus had transported all the people of Attica into Athens. It is true they might be deceived by Cicero, *de leg.* l. 2. n. 2. Diodorus, l. 4. p. 306. Strabo, l. 9. p. 69, who say it expressly. But that notion is not just. It is certain there remained inhabitants in the country to cultivate the grounds. Thucydides plainly says so, l. 2. p. 108. Theseus only made Athens the metropolis of Attica.



Theseus thought there only should be three: the nobles, the labourers, and the artificers <sup>g</sup>. The principal end of Theseus was to establish a perfect equality in the state <sup>h</sup>. With this view, he gave to the nobles the privilege of offering sacrifices, of administering justice, and of taking cognizance of what concerned religion and civil government <sup>i</sup>. By this means Theseus made the nobles as powerful as both the other estates. These last prevailed by their numbers, by their necessary importance, and by their utility in the state: but the honours and the dignities which the nobles were in possession of, gave a weight to them, which was not in the labourers nor artificers.

This distribution of the citizens of a state into different classes, relative to their different professions, was the reigning taste of the ancient people. We have seen that it had place in Egypt. The colonies that passed from that country into Greece, brought with them this policy <sup>k</sup>. It is not therefore surprising that it took place there. I will not here insist on the inconveniencies that might arise from so dangerous a maxim: I will speak of them elsewhere <sup>l</sup>.

Such was the new form of government which Theseus established in his kingdom. He made Athens the capital, or, one may say, the metropolis of his dominions. From thence this prince laid the foundations of the grandeur which this city afterwards attained. He may justly be looked upon as the second founder <sup>m</sup>.

Theseus was also the first prince who favoured popular government <sup>n</sup>. He used the kingly power with much moderation, governing his people with great justice and equity <sup>o</sup>. But, notwithstanding all these great qualities, he could not avoid the strokes of envy, always fond of perfe-

<sup>g</sup> Diod. l. 1. p. 33.; Plut. p. 11. C.

<sup>h</sup> Paus. l. 1. c. 3. p. 9.; Demosth. in Neaeram, p. 873. C.

<sup>i</sup> Plut. *loco cit.* <sup>k</sup> Diod. l. 1. p. 33.

<sup>l</sup> Part 3. book. 1. ch. 4. <sup>m</sup> Diod. l. 4. p. 306.

<sup>n</sup> Demosth. in Neaeram, p. 873.; Plut. in Theseus, p. 11. This author observes, after Aristotle, that the Athenians were the only ones to whom Homer gives the name of *people*. Iliad. l. 2. B. v. 54.

<sup>o</sup> Isocrat. Encom. Helen. p. 309. & 311.; Diod. l. 4. p. 306.

cutting the merit of great men. He was banished from the very city he had raised <sup>r</sup>. What is still more remarkable, is, that it was by way of ostracism, which he himself had established <sup>q</sup>.

I shall say nothing of the kings who possessed the throne of Athens after Theseus. We will pass on to Codrus, in whom ended the kingly government. An answer of the oracle determined this prince to sacrifice himself for the safety of his kingdom <sup>r</sup>. This was the occasion of it.

The return of the Heraclidæ into Peloponnesus, of which I shall speak immediately, had thrown that province into the greatest trouble and confusion. The inhabitants driven from their ancient habitations, had been obliged to look for a retreat in different places. The Ionians, among others, had applied to the Athenians. Melanthus, who then reigned at Athens, had given them a retreat <sup>s</sup>. This new colony made Attica much more flourishing than ever. The Heraclidæ saw with a jealous eye this increase of power. They declared war against the Athenians <sup>t</sup>. Melanthus was then dead, and Codrus had succeeded him. It was formerly the custom never to undertake any expedition without first applying to the oracle. They therefore consulted it, and the answer was, that the Heraclidæ should be conquerors if they did not kill the King of the Athenians. In consequence of this they published an express order not to touch the King of Athens. Codrus heard of this. The love which his people had for him made them keep a watchful guard upon him. To escape from the vigilance of his guards, he disguises himself like a peasant, enters into the enemy's camp, picks a quarrel with a soldier, and wounds him. The soldier falls upon him and kills him. The news

<sup>r</sup> Diod. l. 4. p. 306.; Plut. in Theseus. p. 15. 16.

<sup>q</sup> Theophrast. in polit. apud Suid. voce Ἀρχὴ Σχυρὰ, t. 1. p. 344.; Euseb. chron. l. 2. p. 90.; Syncell. p. 172.; Scholiast. Aristophan. in Pluto.

It is true this opinion has its difficulties. See Scaliger. Animad. in Euseb. p. 50.; Potter, Archaeol. l. 4. c. 25. p. 115. et les mem. de l'acad. des inscript. t. 12. mem. p. 145.

<sup>r</sup> Codrus pro patria non timidis mori. Horat. carm. l. 3. od. 19.

<sup>s</sup> Strabo, l. 9. p. 602.; Paus. l. 7. cap. 1.

<sup>t</sup> Justin. l. 2. c. 6.; Strab. l. 9. p. 602.



was soon spread. Codrus is known. The Heraclidæ imagining, from the answer of the oracle, that the Athenians would be victorious, retired without giving battle <sup>a</sup>.

After the death of Codrus, the Athenians would have given him a successor. But not finding any to compare with him, they abolished royalty. By this means the government of Athens was changed from monarchical, to republican <sup>x</sup>. We will speak afterwards of the consequences of this revolution <sup>y</sup>.

## A R T I C L E II.

### A R G O S.

**I** Have before observed, that Argos was one of the most ancient kingdoms of Greece. I have likewise said that the reigns of the first successors of Inachus deserved no attention <sup>z</sup>. We therefore pass them over in silence to come to Gelanor. He was the last of the race of the Inachidæ who enjoyed the crown.

Gelanor had not reigned many months, before Danaus, at the head of an Egyptian colony <sup>a</sup>, came to dispute the crown with him <sup>b</sup>. The people were chosen to determine their dispute. Till that moment Danaus had had no commerce with the Argives. Every thing seemed united in favour of Gelanor. Danaus was scarce known to the people over whom he would reign. Gelanor, on the contrary, was the issue of the family which for a long time had been in possession of the government. The motive which made them prefer Danaus is very singular. At the time that they both met to attend the decision of the people, a wolf fell upon an herd of cows which was passing under the walls of

<sup>a</sup> Justin. *loco cit.*; Val. Max. l. 5. c. 6. p. 489.; Paus. l. 7. c. 25.

<sup>x</sup> Justin. l. 2. c. 7.; Vell. Patercul. l. 1. c. 2.; Pausan. l. 4. c. 5. *sub fin.*

<sup>y</sup> Part 3. book 1. chap. 5.      <sup>z</sup> See part 1. book 1.

<sup>a</sup> Marm. Oxon. ep. 9.; Herod. l. 2. n. 91.; Apollod. l. 2. p. 63.; Diod. l. 5. p. 376.

<sup>b</sup> Paus. l. 2. c. 16.

the city. He attacked the bull who marched at their head and overthrew him. The Argives took this accident for a decisive augury. They thought that Gelanor was represented by the bull, a tame animal, and Danaus by the wolf, a savage one. And on this principle they determined in favour of Danaus <sup>c</sup>.

As soon as he saw himself invested with sovereign authority, he thought of the means of preserving it. With this view he built a citadel in the city of Argos <sup>d</sup>. Danaus educated in Egypt, where the arts were very flourishing, would impart them to his new subjects. He shewed them the way to meliorate their soil, and make it more fertile <sup>e</sup>. This prince excelled all the kings who had preceded him; and that in so distinguished a manner, that, in consideration of it, the people changed the name which they had always borne, and did him the honour to adopt his <sup>f</sup>.

To Danaus, succeeded Lynceus his son-in-law <sup>g</sup>; but there is nothing to be related of his reign, nor of those of his successors, till we come to Acrisius. It is in the reign of this prince that they place the arrival of Pelops in Greece <sup>h</sup>.

He was son of the famous Tantalus, King of Phrygia. A war with Ilus, son of Tros, the same who gave to Troy the name of Ilium, obliged Pelops to quit Asia, and to go into Greece with his sister <sup>i</sup>. Their arrival in a very little time occasioned great changes in the affairs of that part of Europe. Thucydides remarks, that Pelops easily obtained great credit in Greece, because he brought there from Asia riches unknown before that time to the natives of the country <sup>k</sup>. To which Plutarch adds, that the number of his children contributed to it as much as the greatness of his treasures. For his daughters were married to the most powerful princes of Greece, and he found means to procure sovereignties for each of his children <sup>l</sup>. Pelops was more-

<sup>c</sup> Paus. l. 2. c. 19.    <sup>d</sup> Strabo, l. 8. p. 570.

<sup>e</sup> We shall speak of this in the article of arts.

<sup>f</sup> Euripid. *apud* Strab. l. 8. p. 570.    <sup>g</sup> Apollod. l. 2. p. 67.; Paus l. 2. c. 6.

<sup>h</sup> Marsh. p. 235.    <sup>i</sup> Ibid.    <sup>k</sup> Ibid.    <sup>l</sup> Ibid.



over a steady and prudent prince, and knew how to conquer most of the people of Peloponnesus. He was even so far honoured and respected, that they gave his name to all that peninsula. I shall have occasion in the sequel to speak of the posterity of Pelops. Let us return to Acrisius.

No one is ignorant that the end of this prince was most unlucky. He lost his life by the hand of Perseus his grandson. By his death, Perseus found himself King of Argos. But the manner by which he ascended the throne, gave him a distaste to his kingdom. He condemned himself to quit his country, and engaged Megapentes king of Tyrinus, his cousin, to change his kingdom with him <sup>m</sup>.

The kingdom of Argos lost by the death of Acrisius almost all its glory. From Megapentes, who left his crown to Anaxagoras his son, there is nothing certain in the succession of the kings of Argos. All that we know, is, that Cylarabis was the last of them. In the reign of this prince, Orestes, son of Agamemnon, seized on the kingdom of Argos <sup>n</sup>, and united it to that of Mycenæ.

### A R T I C L E III.

#### M Y C E N Æ.

**T**Hough the kingdom of Mycenæ be the least ancient and the least considerable in Greece; yet to leave nothing to be wished for relative to the ancient state of that part of Europe, I shall examine its history, but that very briefly. What we have read of the exchange made between Perseus and Megapentes, made me place here what I have to say on this subject.

The kingdom of Mycenæ owes its foundation to Perseus <sup>o</sup>. Tyrinthes was the capital of that new kingdom which that prince had just acquired; but, for reasons at present unknown, he resolved to change his residence. As he

<sup>m</sup> Apollod. l. 2. p. 77.; Paus. l. 2. c. 16.    <sup>n</sup> Paus. ibid. c. 18.

<sup>o</sup> Strabo, l. 8. p. 579.

looked for a proper place to build a new city, the hilt of his sword fell off. This accident appeared to him an happy presage. He thought he there saw the will of the gods in a sensible manner, and because *μύκης* in Greek signified the hilt of a sword, he built a city there, and called it Mycenæ <sup>p</sup>. Such were the motives by which they were commonly determined in these remote ages.

Perseus, a prince equally famous by his exploits and by his travels, is one of the most celebrated heroes of antiquity <sup>q</sup>. But I believe I shall be dispensed with from entering into any detail of his actions. What history has transmitted to us is so disfigured by fabulous and contradictory relations, that one cannot tell what to make of them. I shall therefore content myself with just taking notice of his voyages in the article of navigation.

The successors of Perseus were Mastor, Electrion, Sthenelus, and Eurystheus. This last was grandson of Pelops by his mother Nicippe <sup>r</sup>, whom Sthenelus had married. No one is ignorant of the labours with which he loaded Hercules his cousin. The family of Perseus ended in the person of Eurystheus. Having made war in Attica, he perished there with all his children <sup>t</sup>.

At his death the crown of Mycenæ passed into the family of Pelops. Upon going on his expedition against the Athenians, Eurystheus had intrusted the government of his dominions to his uncle Atreus, son of Pelops <sup>t</sup>. Atreus was no sooner apprised of the death of his nephew, and the defeat of his army, than availing himself of the consternation which that event had thrown his countries into, he seized on the throne of Mycenæ. This prince is but too well known by the horrible consequences of his implacable hatred of Thyestes his elder brother. We know the cause of it. To revenge himself of the dishonour he believed he had received,

<sup>p</sup> Pauf. l. 2. c. 16.

<sup>q</sup> Herod. l. 2. p. 91. l. 7. n. 61. et 150. ; Apollod. l. 2. ; Hygin. fab. 64. ; Ovid. Met. l. 4.

<sup>r</sup> Apollod. l. 2. p. 78. 79.

<sup>t</sup> Thucyd. l. 1. p. 8. ; Apollod. l. 2. p. 122. : Diod. l. 4. p. 301. 302.

<sup>t</sup> Thucyd. l. 1. p. 89. ; Diod. l. 4. p. 302.



Atreus made Thyestes eat his own children <sup>u</sup>. This unhappy father had been intimate with his own daughter Pelopia <sup>x</sup>. From this incest he had a son whom he called Egeus. Egeus revenged his father by slaying Atreus. This death placed Thyestes on the throne of Mycenæ <sup>y</sup>. Agamemnon his nephew drove him out <sup>z</sup>: but by the intrigues of his wife Clytemnestra, he himself some time afterward fell beneath the strokes of Egeus, who seized on the crown <sup>a</sup>. This usurper in his turn perished by the hand of Orestes, who did not even spare his own mother <sup>b</sup>.

The crime of Orestes did not go unpunished. Without speaking of the remorse of conscience, meant by the revenging furies with which the ancient tragedies have represented him tormented, he was accused before the people by Perilas, who, as cousin-german of Clytemnestra, demanded vengeance for her death <sup>c</sup>. Orestes was obliged to go to Athens to submit himself to the judgment of the Areopagus <sup>d</sup>. 'Tis one of the most famous that this tribunal is said to have given. Though fable has strangely disfigured the circumstances, it is certain that this judgment was the epocha of a change of the utmost consequence in the criminal proceedings of the Athenians. For this reason I will lay the facts before the reader. I leave to his own discernment the care of disentangling the truth, from what has been added to it by the taste of an age too fond of the marvelous.

The Areopagus discussed the affair of Orestes with great attention. They were divided in opinion at the beginning; but in the end the number of the judges who were for condemning Orestes, carried it by one vote over those who would have him acquitted. This unfortunate prince was going to be condemned; when Minerva joined herself, say they, to the judges who were for pardoning, and by

<sup>u</sup> Paus. l. 2. c. 18.; Hygin. fab. 87. 88.    <sup>x</sup> Idem, *ibid*.

<sup>y</sup> *Ibid*.; Iliad. l. 2. v. 100.    <sup>z</sup> Euripid. Iphig. act. 5.

<sup>a</sup> Odyss. l. 4. v. 91. 92. l. 11. v. 408. &c.; Virgil. Æneid. l. 11. v. 226. & 268.; Hygin. fab. 117.; Vell. Pater. l. 1. p. 2.

<sup>b</sup> Marm. Arund. ep. 24.; Hygin. fab. 119.    <sup>c</sup> Paus. l. 8. c. 34.

<sup>d</sup> Id. l. 1. c. 28.; Marm. Arund. ep. 24.

that means made the votes equal. In consequence, Orestes was acquitted of the accusation <sup>c</sup>. From that time, whenever there was an equality of voices, they decided in favour of the accused <sup>e</sup>, by giving him what they call *the suffrage of Minerva* <sup>g</sup>.

The reign of Orestes was glorious and flourishing. By his marriage with Hermione, daughter of Menelaus, he inherited the kingdom of Sparta <sup>h</sup>. I have already observed, that he united the crown of Mycenæ to the kingdom of Argos <sup>i</sup>.

Tisamenes his son succeeded him <sup>k</sup>, and only wore the crown three years. It was in his reign that the kingdom of Mycenæ ended by the invasion of the Heraclidæ, who threw themselves into Peloponnesus, made themselves masters of it, and changed the form of government <sup>l</sup>.

## ARTICLE IV.

### THEBES.

**B**EOTIA was the first country of Greece said to be inhabited; these people formerly called themselves Ectenes, and reckoned Ogyges for their first sovereign <sup>m</sup>. A violent plague having destroyed almost all the first colony, the Hyantes and the Aonians entered Beotia, and settled there <sup>n</sup>. We are entirely ignorant of the events that happened till the time that Cadmus seized on it.

<sup>c</sup> Æschil. in Eumen. v. 743. & 749.

<sup>e</sup> Arist. problem. sect. 29. prob. 13. ; Hesychius voce ἰσακρίτος. See also Meziriac, in ep. Ovid. t. 2. p. 271. ; Bianchiani. ist. univ. p. 318. and the note on Marm. Oxon. p. 353.

According to Varro, this custom should be yet more ancient than Orestes; he says it took place in the judgment which the Areopagus gave between Mars and Neptune, on account of the murder of Halirothius. Apud. August. de civit. Dei, l. 8. c. 10.

<sup>g</sup> In France the accused are treated yet more favourably. There must always be two voices majority for the most rigorous sentence. So among eleven, for example, if there are six for an heavy punishment, and five for a lighter, the five carry it against the six, and the court passes the milder sentence.

<sup>h</sup> Hygin. fab. 121. ; Paus. l. 3. c. 1. <sup>i</sup> Art. 2.

<sup>k</sup> Paus. l. 2. c. 18. <sup>l</sup> See art. 6. <sup>m</sup> Paus. l. 9. c. 5.

<sup>n</sup> Ibid. See also Strab. l. 9. p. 615.



The arrival of this prince is one of the most celebrated epochs of the Grecian history. It happened in the reign of Amphycion second king of Athens °, 1519 years before Christ. It is of very little consequence to know whether Cadmus was originally an Egyptian or Phenician; that is a point I shall not examine. It is sufficient to know that he came from Phenicia into Greece. All authors agree in this. The motive of his voyage, according to some, was an order he received from the King his father, to go in search of his sister Europa whom the Greeks had stolen away p. After having been stopped by a tempest a long time, he came into Beotia. His first care was to go and consult the oracle of Delphos, to know in what country he might find Europa. The god, without answering his question, bid him fix his abode at a place that should be shewn to him by an ox of a particular colour \*. On going out of the temple, Cadmus met one, which, after having led him a great way, laid down through weariness. Cadmus fixed himself in the very spot, and called it *Beotia* †.

It was not without meeting with great resistance from the inhabitants, that Cadmus was able to form his new establishment. The Hyantes in particular opposed them greatly ‡. But a decisive battle obliged them to abandon their country, and to look for a retreat somewhere else. The Aonians, become wise by the example of their neighbours, voluntarily submitted themselves to the conqueror, who, on their becoming subjects, permitted them to stay in their own country. From that time they were one and the same people with the Phenicians †. This is the abridg-

° Marm. Oxon. ep. 7.

p Euseb. Chron. l. 2. p. 79.

According to an ancient tradition related by Athenæus, l. 14. p. 658. Cadmus was only one of the principal officers of the King of Sidon. Seduced by the charms of Hermione or Harmione, a musician in the court of that prince, he carried her off, and conducted her into Boeotia. See upon this whole anecdote, le comment. du P. Calmet. *ad* Gen. c. 37. v. 36. Athenæus took this from the third book of Euhemerus, a famous author, but much cried down by antiquity, and I believe very unjustly, as I will fully shew hereafter.

‡ Apollod. l. 3. p. 136.; Hygin. fab. 178.; Paus. l. 9. c. 12.

† Paus. l. 9. c. 12. † Paus. l. 9. c. 5. † Ibid.

ment of the history of this colony, which fable has strangely altered<sup>a</sup>.

When Cadmus saw himself in peaceable possession of the country, he built a fortress, according to the custom of these first conquerors, which, from the name of its founder, was called Cadmeus<sup>\*</sup>. As he wanted to increase the number of his subjects, he first granted the favour of asylums, and gave an absolute security to all those who would fly for refuge to him<sup>†</sup>. Cadmus succeeded, and by this expedient made his city extremely populous. But he exposed it at the same time to the jealousy of his neighbours, in that he protected criminals from the punishment they deserved.

There are few colonies from whom the Greeks have drawn such great advantages as from this of Cadmus. Greece is indebted to him for alphabetic writing, the art of cultivating the vine, and the forging and working of metals. I shall take a proper notice of all these particulars in the sequel of this work.

Cadmus, after having reigned some time in Beotia, saw a conspiracy formed which deprived him of the throne. Forced to retire, he looked for an asylum among the Encheleans<sup>‡</sup>. These people being at that time at war with the Illyrians, had received an answer from the oracle, which promised them victory if they marched under the conduct of Cadmus. They believed this; and having effectively put that prince at their head, they defeated the Illyrians. In acknowledgment of the service which Cadmus had done them, they chose him king. There he finished his course. He died in that country<sup>§</sup>.

The moment that Cadmus abandoned his rising principality, Polydore his son ascended the throne<sup>||</sup>. I shall

<sup>a</sup> See Apollod. l. 3. p. 136.; Ovid. met. l. 3. *init.*; Palaeph. c. 6.; Bannier, *explicat. des fables*, t. 6. p. 117.

<sup>\*</sup> Strab. l. 9. p. 615.; Paus. l. 9. c. 5.

<sup>†</sup> Potter, *Archaeolog. Gr.* l. 2. c. 2. p. 213.

Romulus availed himself of the same means to people Rome the more readily. Dion. Halic. l. 2. p. 88.; T. Livius, l. 1. n. 8.; Strabo, l. 5. p. 352.; Plut. *in Romulo*, p. 22. E.

<sup>‡</sup> Apollod. l. 3. p. 143.; Strabo, l. 7. p. 503.; Paus. l. 9. c. 5.

<sup>§</sup> Apollod. & Paus. *lococit.*

<sup>||</sup> *Ibid.*



dwelt no longer on the successors of Cadmus. The family of that prince is but too well known by the shocking misfortunes that overwhelmed it. The most tragical catastrophes seem to have been the portion of his successors. They continued to Xanthus the last King of Thebes. The manner in which he perished, was the reason that the government changed its form, and became republican.

A difference had arisen between the Athenians and Thebans about a city of which they disputed the possession. The troops being in sight of each other, the two armies reflecting, that, in risking a battle, there must be a great many killed on both sides, they agreed then, to save the effusion of blood, to oblige the two kings themselves to decide the quarrel of the two states. Timœtheus, King of Athens, refused the challenge, and resigned his royalty. Melanthus, to whom they offered it, accepted it, and killed the King of Thebes <sup>b</sup>.

This event, joined to the misfortunes which seemed inseparable from the persons of their sovereigns, gave the Thebans a dislike to royalty <sup>c</sup>: like the Athenians in this particular, who, on the death of Codrus, changed likewise the form of their government. But this change aggrandized the Athenians, whereas the Thebans, in losing their kings, lost all their reputation <sup>d</sup>. Athens become a republic, carried its glory to the highest pitch it was capable of arriving at. Thebes, on the contrary, could only languish for a long time. It was more than seven hundred years before it could arise from its obscurity. At last it got out of it by the reputation which the victories of Epaminondas and Pelopidas gave to their arms. This republic played but a short scene, it is true, but a most brilliant one. But this is too foreign to our subject to dwell upon it.

<sup>b</sup> Conon *apud* Phot. narrat. 39. p. 447.; Strabo, l. 9. p. 602.; Paus. l. 9. c. 6.; Polyæn. strat. l. 1. c. 19.; Frontin. strat. l. 2. n. 41.; Suidas, voce *Ἀνδρεια*, t. 2. p. 248.

<sup>c</sup> Paus. l. 9. c. 6.

<sup>d</sup> Paus. *ibid.*; Herod. l. 9. n. 85.

## ARTICLE V.

## L A C E D Æ M O N.

**I**T is not with the origin of this city as with that of Athens. The beginning of Lacedæmon is absolutely unknown. Its first years have been so obscured, that even fable itself has not found sufficient matter to embellish it. I shall not therefore stop to examine the different traditions which have been handed down to us about the origin of this people, of whom we are not at all instructed <sup>c</sup>. We must without doubt attribute the cause of this to the contempt which at all times the Lacedæmonians had for letters <sup>d</sup>.

Lelex is looked upon as the first who is said to have reigned over Laconia. Some say that he was an Egyptian <sup>e</sup>; others, that he was originally of that country <sup>f</sup>. They place the beginning of his reign 1516 years before the Christian æra. Of most of the kings who have possessed the throne from this prince to Orestes, we scarce know any thing but their names; we can no where find either the time that each prince reigned, or even the number of years which make up the sum of their reigns. Besides the little we know of their actions, presents nothing worthy of detaining the reader. Yet we must except Oebalus, the eighth king of Sparta from Lelex.

This prince espoused for his second marriage Gorgophona, daughter of Perseus. That princess was then widow of Perieres, King of Messina <sup>g</sup>. This is the first example the Grecian history gives us of a widow's marrying <sup>h</sup>. By this marriage he had Tyndarus <sup>i</sup>. His father declared him heir to his dominions, and he enjoyed them some time. But Oebalus had had by Nicostrata, his first wife, a son called Hippocoon <sup>m</sup>. This prince, assisted by the nobles of the

<sup>c</sup> See Bochart, le P. Pezron. le Clerc, bibliotheque univ. t. 6.

<sup>d</sup> *Ælian. var. hist.* l. 12. c. 50.

<sup>e</sup> *Paus.* l. 1. c. 44.

<sup>f</sup> *Id.* l. 3. *mit.*

<sup>g</sup> *Id.* l. 4. c. 2.

<sup>h</sup> *Id.* l. 2. c. 21.

<sup>i</sup> *Id.* l. 3. c. 1.

<sup>m</sup> *Meurs. de reg. Lac.* c. 3. 4.



country, claimed the throne in virtue of his right of seniority, declared war against Tyndarus <sup>n</sup>, obliged him to give up the crown, and go to Sparta <sup>o</sup>. Tyndarus retired to Thestius, and married his daughter Leda, so well known in fable by her amours with Jupiter <sup>p</sup>. Hippocoon having some time before drawn upon himself the wrath of Hercules, that hero massacred him and all his children, and replaced Tyndarus upon the throne of Sparta <sup>q</sup>. But he only ceded that crown to him on condition that he gave it up again to his descendents when they should come and demand it of him <sup>r</sup>.

Tyndarus had, by his marriage with Leda, two sons twins, Castor and Pollux, and two daughters, Helena and Clytemnestra <sup>s</sup>. Authors are not agreed in what manner Castor and Pollux perished. However it was, Tyndarus afflicted for the untimely loss of his two sons, thought to repair it by chusing a son-in-law worthy of his daughter, and capable of governing his kingdom. His design was no sooner known, than all the princes of Greece offered themselves. They reckoned there were twenty-three rivals who aspired to the hand of Helen <sup>t</sup>. This croud of competitors greatly embarrassed Tyndarus. He feared lest the choice that he should make should bring on him the enmity of those who should be refused. Ulysses, who was one of the number, then gave marks of that artifice which has always appeared in his conduct. He suggested to Tyndarus an expedient to get out of the difficulty without any disagreeable conse-

<sup>n</sup> Paus. l. 2. c. 18. p. 151. l. 3. c. 1.

<sup>o</sup> Apollod. l. 3. p. 173.; Diod. l. 4. p. 278.; Strabo, l. 10. p. 708.; Paus. l. 3. c. 21. p. 263.

<sup>p</sup> Apollod. l. 3. p. 173.; Hygin. fab. 77.; Strabo, l. 10. p. 709.

<sup>q</sup> Apollod. l. 2. p. 114. 115.; Diod. l. 4. p. 278.; Paus. l. 2. c. 18. p. 151. l. 3. c. 15. p. 244.

<sup>r</sup> Diod. l. 4. p. 278.; Paus. p. 151.

<sup>s</sup> Apollod. l. 3. p. 174.; Hygin. fab. 78.

<sup>t</sup> Apollod. l. 3. p. 175.

It must have been that in those times the hopes of a crown surpassed all other considerations; otherwise the rape of Helen by Theseus, had made too much noise in Greece not to have cooled the ardor of the pretenders, especially as she was suspected to have to Theseus, Iphigenia, whom her aunt Clytemnestra took care to bring up as if she had been her own daughter. Paus. l. 2. c. 22.; Auton. liberal. metam. c. 27.

quences.

quences. He advised him to make all the lovers of Helen swear solemnly, that they would agree to the choice of that princess, and that they would all join themselves to him whom she had chosen, to defend him against any one who would dispute her with him <sup>u</sup>. They all accept the proposition, each flattering himself that the choice of Helen will fall upon him. She determined in favour of Menelaus, brother of Agamemnon <sup>x</sup>, who by that means became King of Sparta <sup>y</sup>. Scarce had she been three years with this prince, when she was carried off by Paris, son of Priam. Every one knows that this rape occasioned the war of Troy <sup>z</sup>.

Before this event, Helen had had to Menelaus a daughter called Hermione <sup>a</sup>. This princess, on marrying Orestes her cousin-german, brought as a dower to the prince the kingdom of Sparta <sup>b</sup>. It was under the reign of Tisamenus his son, that the descendents of Hercules entered into Peloponnesus, and made themselves masters of it eighty years after the taking of Troy. This event, one of the most considerable in the Grecian history, totally changed the face of that part of Europe, and brought upon it a dreadful revolution. This was the occasion of it.

## A R T I C L E VI.

### The H E R A C L I D Æ.

**P**ERSEUS had had, by his marriage with Andromeda, Alceus, Sthenelus, Hilar, Mastor, and Electrion <sup>c</sup>. Alceus having married Hippomene, daughter of Meneceus, had

<sup>u</sup> Apollod. l. 3. p. 176.; Hygin. fab. 78.; Paus. l. 3. c. 22.

<sup>x</sup> Hygin. fab. 78.

<sup>y</sup> Ibid.

<sup>z</sup> Herodotus makes a very judicious reflection on this subject. The Asiatics, says he, look upon the taking away a man's wife as a most unjust action; but they think none but fools would try to revenge those that have been carried off, persuaded that this could not have happened but with their own consent. l. 1. n. 4.

<sup>a</sup> Apollod. l. 3. p. 176.

<sup>b</sup> Paus. l. 3. c. 1.; Hygin. fab. 122.

<sup>c</sup> Apollod. l. 2. p. 77. 78.; Diod. l. 4. p. 254.



two children by her, Amphytrion and his sister Anaxo<sup>d</sup>. Electrion married his niece Anaxo, daughter of Alceus, and by that marriage had Alcmena<sup>e</sup>, who afterwards became the wife of Amphytrion, and was mother of Hercules.

Electrion enjoyed the throne of Mycenæ after the death of Perseus. Amphytrion ought naturally to have succeeded him. He was grandson of Perseus, and by his wife Alcmena, he was the sole heir of Electrion<sup>f</sup>. But having had the misfortune involuntarily to kill his father-in-law, he was obliged to retire to Thebes<sup>g</sup>. Sthenelus, brother of Electrion, availing himself of the public hatred which this accident had drawn upon Amphytrion, seized on the realms of his fugitive nephew, and gave them to his son Eurystheus<sup>h</sup>. By this usurpation Hercules was himself excluded from the crown of Mycenæ. We know to what dangers Eurystheus exposed this hero, with a view to destroy him. He without doubt apprehended that he would undertake some time or other to dethrone him. Hercules at his death left many children. They were almost all brought up by the care of Ceix, king of Trachine<sup>i</sup>. Eurystheus fearing that they should one day unite to take the crown from him, threatened Ceix, to declare war against him if he did not drive them from his court. The Heraclidæ terrified by these menaces, quitted Trachine. In vain they sought an asylum in most of the cities of Greece. They found none who would receive them. The Athenians were the only people who durst give them a retreat<sup>k</sup>. Eurystheus would not suffer them to stay there. Determined to destroy them, he led against them a powerful army. The Heraclidæ supported by the Athenians, and commanded by Iolaus, nephew of Hercules, by Hyllus his son, and by Theseus, they

<sup>d</sup> Apollod. *ibid.*    <sup>e</sup> *Id. ibid.*    <sup>f</sup> *Ib.* p. 79. 80.

<sup>g</sup> *Id.* p. 80.; Paus. l. 9. c. 11.    <sup>h</sup> Apollod. l. 2. p. 80.

<sup>i</sup> *Id. ibid.* p. 122.; Diod. l. 4. p. 301.; Paus. l. 1. c. 32. p. 79.

<sup>k</sup> Apollod. Diod. Paus. *locis cit.*; Euripid. *Heraclid.* v. 19. 50. 145. &c.; Isocrat. p. 129.

gave battle to Eurystheus. They gained it. Eurystheus lost his life in it <sup>1</sup>.

This happy success having drawn a great number of soldiers to the army of the Heraclidæ, they took almost all the towns of Peloponnesus <sup>m</sup>. But a violent plague having afflicted that province, they consulted the oracle upon it. They were informed, that having entered the country too soon, they could not make the plague to cease but by retreating. They obeyed, and abandoned Peloponnesus <sup>n</sup>.

The oracle, according to custom, explained itself obscurely as to the time that should elapse before the Heraclidæ ought to make a new attempt. So Hyllus, their chief, who thought he had discovered the meaning, returned to Peloponnesus at the end of three years <sup>o</sup>. Atreus who then reigned at Mycenæ, assembled all his troops, strengthened himself by alliances, and advanced to dispute the passage with the enemy <sup>p</sup>. The armies being in sight of each other, Hyllus remonstrated that it would not be so well to expose the two parties to the chance of a general battle. He therefore proposed to Atreus and the other chiefs, to chuse among them a champion, and he offered to fight him, on condition that the event of their combat should determine that of the war. The offer was accepted. They came to this agreement, that if Hyllus was victor, the Heraclidæ should enter into their father's possessions; but if he was conquered, neither he nor any belonging to him should return into Peloponnesus for an hundred years <sup>q</sup>. Echemus, King of Tegeates, on the side of the allies, accepted the challenge of Hyllus, and slew him. The Heraclidæ, according to treaty, withdrew their troops, and abstained from all acts of hostility <sup>r</sup>.

<sup>1</sup> Apollod. Diod. *locis cit.*; Strab. l. 8. p. 579.

<sup>m</sup> Apollod. et Diod. *locis cit.*    <sup>n</sup> Apollod. l. 2. p. 122. 123.

<sup>o</sup> Id. *ibid.* p. 123. 124. The god had ordered them to wait for the *third fruit*; Hyllus believing that that expression meant three harvests, returned into Peloponnesus at the end of three years; whereas, according to the intention of the oracle, he ought to have understood by the *third fruit*, the third generation.

<sup>p</sup> Diod. l. 4. p. 302.

<sup>q</sup> Herod. l. 9. n. 26.; Diod. l. 4. p. 302. He is mistaken in fixing this term only fifty years.

<sup>r</sup> Diod. l. 4. p. 302.; Paus. l. 1. c. 41. He is mistaken in placing this event in the reign of Orestes.



They kept their word; but when the term they had agreed upon was expired, Temenes, Chresphontes, and Aristodemus, descendents of Hercules by Hyllus †, made a last push to make themselves masters of Peloponnesus. This last trial succeeded better than the preceding. After having equipped a fleet at Naupactus ‡, the Heraclidæ, according to custom, consulted the oracle upon the success of their enterprise. The answer was, that they ought to take *three eyes for the guides of their expedition* <sup>u</sup>. As they endeavoured to find the sense of these words, there happened a one-eyed man to ride by on a mule. He was an Ætolian, called Oxylus. Persuaded that he was the guide designed by the oracle, the Heraclidæ joined him in their enterprise, and promised him Elis for his share <sup>x</sup>.

The Achæians and Ionians then possessed the greatest part of Peloponnesus <sup>y</sup>. Tisamenus, son of Orestes, reigned over Argos, Mycenæ, and Lacedæmon. He took up arms, but was defeated, and perished in the battle that was fought <sup>z</sup>. The Heraclidæ took Argos, Mycenæ, and Lacedæmon. They divided these three cities among them. They had their possessions by lot <sup>a</sup>. Temenes had Argos. Lacedæmon fell to the children of Aristodemus, who died during the course of the expedition. Mycenæ fell to Chresphontes <sup>b</sup>. Oxylus had Elis, as they had promised him. He was not so easily settled in it as they had flattered themselves. Dius, who was the possessor, disputed it with him. According to the custom of those times <sup>c</sup>, instead of exposing all their troops to the

† Paus. l. 2. c. 18.

‡ Apollod. l. 2. p. 124.; Paus. l. 5. c. 3. While they were preparing this fleet, Aristodemus died. He left two children who succeeded to his rights, Apollod. *loc. cit.*; Paus. l. 4. c. 3.

<sup>u</sup> Apollod. l. 2. p. 125.; Paus. l. 5. c. 3.      <sup>x</sup> Apollod. Paus. *locis cit.*

<sup>y</sup> These people had their names from Acheus and Ion, sons of Xuthus, grandsons of Helen and great-grandsons of Deucalion.

<sup>z</sup> Apollod. *loc. cit.*; Paus. l. 2. c. 18. only says that this prince was obliged to retire with his children.

<sup>a</sup> Apollod. l. 2. p. 125. 126.; Paus. l. 4. c. 3. The original of this treaty remained in the time of Tiberius. Tacit. Annal. l. 4. n. 43.

<sup>b</sup> Plato de leg. l. 3. p. 808.; Apollod. l. 2. p. 126.; Paus. l. 2. c. 18. l. 4. c. 3.

<sup>c</sup> Strabo l. 8. p. 548.

risk of a battle, they agreed to chuse an Etolian and an Elean, who, by single combat, should terminate the quarrel of the two pretenders. The Etolian got the victory; so Oxylus was acknowledged King <sup>d</sup>.

It was thus that Peloponnesus went from the family of Pelops to the descendents of Hercules. That part of Greece was not the only one that felt the effects of this revolution <sup>e</sup>. The rest of the countries suffered almost as much from the consequences of this event. The people who were first attacked, threw themselves upon their neighbours: these here reciprocally carried desolation into the countries whose vicinity made them most convenient to them. The strongest drove out the weakest. Like the waves of an agitated sea, this people, so to speak, flowed back one upon another. The Achaians were the first upon whom the storm fell. Forced to quit their country, they threw themselves upon the Ionians, whom they obliged to quit theirs. These last had recourse to Melanthus, who had just ascended the throne of Athens. Touched with the misfortunes of his ancient countrymen, this prince gave them a retreat in his kingdom <sup>f</sup>.

The return of the Heraclidæ into Peloponnesus is one of the most remarkable epochs of the Grecian history. The consequences were fatal to the whole nation, as I shall shew, when I come to speak of the state of arts and sciences in Greece during the course of the ages we are going over.

## A R T I C L E VII.

### *Observations on the ancient government of Greece.*

**W**E have seen from the exposure I have made of the beginnings of the Grecian history, that the monarchical government was the first that took place among these people. This is a truth acknowledged by all the writers of antiqui-

<sup>d</sup> Strabo, ib. Paus. l. 5. c. 4. *init.*

<sup>e</sup> Id. l. 2. c. 13. *init.*; Herod. l. 2. n. 171.; Diod. fragm. l. 6.; Apud Syncell. p. 179.; Strabo. l. 9. p. 622. <sup>f</sup> Strab. l. 9. p. 622.; Paus. l. 7. c. 1.



ty<sup>s</sup>. These famous republics, Athens, Thebes, Corinth, &c. were not formed but till pretty late. Let us examine what were the rights, the power, the offices, and authority of the first sovereigns of Greece. We shall see by the details we are going to make, how shapeless and rude the ancient government of these people was.

One ought to apply to the first kings of Greece, what I have said of the first sovereigns of Asia. They were very distant from the idea we now join to the name of king. The extent of their dominions, their domains, and their power, in no respect answered to the title they bore; a small city, a town, a few leagues of ground, were honoured with the name of kingdom. There were not then any considerable cities in Greece. The greatest part of the inhabitants lived in the country<sup>b</sup>. Thus when the history of those times speaks of great monarchies, and of powerful kings, we ought always to understand it in comparison of the neighbouring states. Argolide which formed the kingdom of Agamemnon, was only a very small province. There are in France many estates more considerable, by the demesns that depend upon them, than this kingdom so boasted of in Grecian antiquity.

The power of those kings was not much more extensive than their territories. The affair of Hypermnestra, daughter of Danaus, proves how very bounded was the authority of the Grecian sovereigns.

Danaus was provoked at his daughter, because she had not executed an order he had given her to stab her husband the first night of their marriage. He durst not punish her by his own authority. He cited her before the people, as guilty of disobedience: Hypermnestra was not only acquitted of the accusation, but was even honoured by the Argives, by being made priestess of Juno their principal divinity<sup>i</sup>.

<sup>s</sup> Arist. polit. l. 1. c. 10.; Dionys. Halicarn. l. 5. p. 336.; Strabo, l. 7. p. 496.

<sup>b</sup> Thucyd. l. 1. p. 11. lin. 70.

<sup>i</sup> Paus. l. 2. c. 19.; Euseb. Chron. l. 2. n. 582. It seems in these times that the King did not name the high priestesses; but that they were elected by the people. See Iliad. l. 6. v. 300.

We likewise know that the kings of Attica, so far from having sovereign authority, were often exposed to the caprices and violences of their people. It was not uncommon to see them take up arms against their prince, and often to declare war against him. The will of the kings was not their rule. They governed themselves according to their own wills, and often came to blows with each other <sup>k</sup>. They did not apply to the King but when the common danger obliged them to assemble: then indeed they submitted themselves to his conduct <sup>l</sup>.

What Homer tells us of the form of government of the kingdom of Ithaca, of that of the Pheacians <sup>m</sup>, and of some others, may serve as a rule to judge of the rest of the states of Greece. We ought only to look upon the first sovereigns of this country, as chiefs of a kind of republic, where all the affairs were decided by a plurality of voices. The ancient government of the Greeks was, properly speaking, a medley, a compound of monarchy, oligarchy, and democracy <sup>n</sup>.

The grandees had great authority, and enjoyed very extensive privileges. In Homer, Alcinous, King of the Pheacians, speaking to the great men of the state, says in plain terms, “ There are twelve chiefs who command a people, “ and I am the thirteenth <sup>o</sup>. ” When Theseus would make Athens the centre of the authority of the whole government, and bring under its jurisdiction all the cities and towns of Attica, he found great opposition from the rich and most powerful of his kingdom, who were afraid of being stript of the best part of their authority <sup>p</sup>.

The people had likewise their rights. They held public

<sup>k</sup> Plut. in Thef. p. 10. F.    <sup>l</sup> Thucyd. 1. 2. p. 107. 108.

<sup>m</sup> Though, for reasons I shall give in another place, I think we ought to look upon the isle of the Pheacians as belonging to Asia, rather than Europe; yet finding great conformity between the government of these people and that of the Greeks, I thought I could strengthen the article I am at present treating of by examples drawn from the Pheacians.

<sup>n</sup> Arist. polit. 1. 3. c. 14.; Dion. Halic. 1. 5. p. 337.

<sup>o</sup> Odyss. 1. 8. v. 390. These twelve chiefs, or princes were something like, what the twelve peers of France were formerly.

<sup>p</sup> Plut. in Thef. p. 11.



assemblies to deliberate on affairs of state. The kings determined nothing of themselves. They had a council composed of the principal persons of the nation<sup>a</sup> : they there proposed what they judged proper. If their project was approved of, they put it in execution after having declared it to the assembly of the people<sup>r</sup>. This is what Aristotle explains very distinctly : “ It is easy to remark,” says he, “ by the ancient forms of government very exactly copied and written “ by Homer, that the kings proposed to the people what “ had been resolved in council<sup>r</sup>.” We shall again have occasion to return to this subject, when we speak of the military discipline of these ancient times<sup>t</sup>.

Besides, the people lived in very great liberty, and almost in independence, without any obligation of obeying the sovereign, if he proposed what they thought was unjust or contrary to the laws of the state, to the received customs, or the interests of particulars. The constitution of government among the ancient inhabitants of Germany, was perfectly conformable to that of ancient Greece<sup>u</sup>, and consequently as defective.

It appears further that it was the people who disposed of dignities. In the *Odyssée*, Ulysses addressing his speech to the Queen of the Pheacians, says to her : “ Great Queen, I “ come to embrace your knees, those of the King, and those “ of all those princes who are seated at your table. May the “ gods grant them the favour of leaving to their children “ after them the riches and honours which the people have “ heaped upon them<sup>x</sup>.” The power of the first kings of Greece was then extremely limited ; their title amounted to

<sup>a</sup> *Odyss.* l. 8. *init.*

<sup>r</sup> *Iliad.* l. 2. v. 53. ; *Odyss.* l. 3. v. 127. ; *Eustath.* ad *Iliad.* l. 1. v. 144. We must take care to distinguish *assemblies* from *councils* ; they were two very different things. *Assemblies*, *Ἀγοραί*, were general, all the people had a right to be there. *Councils*, *Βέλαι*, were particular assemblies composed of chosen persons.

<sup>t</sup> In *moral.* l. 3. c. 5. t. 2. p. 32. See also *Dion. Halic.* l. 2. p. 86.

<sup>u</sup> Book 5. chap. 3. Our ancient feudal government is exactly like the government of Greece in the heroic times. They knew no more then in one country than the other : barbarism reigned equally.

<sup>x</sup> *Tacit. de mor. Germ.* c. 11.

\* *L.* 7. v. 146, &c.

little more than a sort of pre-eminence over the other citizens of the state. Here is the whole amount of their prerogatives.

They had a right to assemble the people each in their own district. They voted first, heard the complaints, and determined the differences which happened among their subjects <sup>y</sup>. But the principal office of these kings, and that in which truly consisted the prerogatives of their dignity, was the command of the troops in time of war, and the superintendence of religion. They presided at sacrifices, public games, and holy combats <sup>z</sup>. In Homer, the kings always did the office of sacrificators. The Greeks were so thoroughly convinced that the high priesthood could not be exercised but by their kings, that even in the cities that changed their monarchical government to republican, he who presided over the mysteries and affairs of religion, had the title of king, and his wife that of queen <sup>a</sup>. It was the same thing among the Romans; in spite of the aversion and contempt which these haughty republicans kept up for whatever bore the name of king, yet they had at Rome a king of the sacrifices <sup>b</sup>.

The revenue of the kings was of the same nature as that of private persons. It consisted in lands, woods, and above all in flocks <sup>c</sup>. The only difference between kings and private persons was, that the kings had these things in larger quantities. The people even shewed their gratitude in no other way but by making them presents of this kind <sup>d</sup>. The Athenians, to reward Theseus for the services he had done them, gave him a certain quantity of land and inclosures <sup>e</sup>. Indeed it was the custom in those remote times, for the people to shew their esteem and gratitude for their princes by

<sup>y</sup> Arist. polit. l. 3. c. 14. p. 357. R.; Ibid. c. 15. *init.*

<sup>z</sup> Arist. *ibid.*; Demosth. in Neacram. p. 873.; Strabo, l. 1. p. 43. l. 14. p. 938.; Plut. t. 2. p. 279. C.

<sup>a</sup> Demosth. *loco cit.*; Pollux. l. 8. c. 9. segm. 96.; Heraclid. in Polit.

<sup>b</sup> Cicero de divin. l. 1. n. 40.; Dion Halicarn. l. 5. p. 278.

<sup>c</sup> Odyss. l. 14. v. 98. &c.; Paus. l. 4. c. 36.; See Meziriac in ep. Ovid. t. 2. p. 319.

<sup>d</sup> Iliad. l. 6. v. 194. l. 9. v. 573.

<sup>e</sup> Plut. in Thes. p. 10. E. The people in this respect treated heroes like the gods, for the gods had lands consecrated to them.



presents. For this reason it is, that the scripture often speaks of the presents which the princes received from their subjects <sup>f</sup>. It was also an ancient custom among the Romans, to give as a reward a certain quantity of lands <sup>g</sup>.

Independently of their particular demesns, these princes levied subsidies on their people <sup>h</sup>. On some occasions they even imposed new taxes <sup>i</sup>. It was likewise usual to exact tributes from conquered people <sup>k</sup>. It appears that these last tributes were paid in kind <sup>l</sup>.

For the rest the riches of these first sovereigns could not be very considerable; it is sufficient, to be convinced of this, to consider, that Greece, in the heroic times, was without trade, without arts, without navigation, destitute, in a word, of all the resources which procure abundance and riches to a country <sup>m</sup>.

It is true, history speaks of one Minyas, King of the Phlegians, whose revenues were so considerable, that he surpassed all his predecessors in riches. They add, that he was the first King of Greece who built an edifice on purpose to deposite his treasures <sup>n</sup>. This prince might reign about 1300 years before Christ; 50 before the expedition of the Argonauts <sup>o</sup>.

They have likewise boasted of the riches of Athamas, King of Orchomene. Athamas was grandson of Deucalion, and son-in-law of Cadmus <sup>p</sup>. I will not dispute these facts, but shall only say, that we ought to understand them with proper restrictions. Minyas and Athamas might be looked upon as very rich, comparatively with the other kings of Greece their cotemporaries. But as these sovereigns were not then opulent, it follows that we ought not to apply to

<sup>f</sup> 1 Kings c. 10. v. 25.

<sup>g</sup> Plin. l. 18. sect. 3. *init*. See likewise Tacit. de mor. Germ. c. 15.

<sup>h</sup> Iliad. l. 9. v. 156. <sup>i</sup> Odyss. l. 13. v. 14. 15.

<sup>k</sup> Apollod. l. 2. p. 85.; Diod. l. 4. p. 255.; Paus. l. 9. c. 37. *init*.

<sup>l</sup> Plut. t. 2. p. 294. D.

<sup>m</sup> See Thucyd. l. 1. n. 11.; Herod. l. 8. n. 137. I shall have an opportunity of examining this more particularly when I come to speak of the state of arts and commerce of the Greeks, in the ages we are at present employed about. Book 4.

<sup>n</sup> Paus. l. 9. c. 36.

<sup>o</sup> See Mezriac. in ep. Ovid. t. 2. p. 56. &c.

<sup>p</sup> Apollod. l. 1. p. 31.; Hygin. fab. 139.

the riches of Minyas and Athamas the idea we at this time annex to these expressions.

I have taken care to remark in the first part of this work, that in Egypt and Asia the throne was hereditary <sup>a</sup>. The same maxim prevailed in Greece. The sceptre passed from father to son <sup>r</sup>, and commonly to the eldest <sup>r</sup>. Superstition alone had sometimes the power to make them reject the presumptive heir. This appears by the discourse which Homer makes Telemachus hold with Nestor, who demands of that young prince, whether the people had taken an aversion to him in consequence of some answer of the oracle <sup>r</sup>. If then we except some particular circumstances <sup>u</sup>, the order of the crowns passing from the father to the son, seems to have been constantly and generally followed. We need only cast our eyes on the Grecian history to be convinced of this truth.

I think I ought not to finish this article without speaking of oracles, and the influence which they had on the conduct of the people. The question of Nestor to Telemachus, which I have just now mentioned, brings us naturally to it.

We should never have done were we to cite all the examples which ancient history affords of the power and effect of oracles. We may find traces sufficiently plain in the short account I have given of the principal events that happened in Greece, during the ages that we are at present running over. These facts shew us to what a degree the Greeks were then blinded with that superstition. It will suffice to say, that nothing was done without the advice of the oracles. They consulted them not only for great enterprises, but even in private affairs. Were they to make war or peace,

<sup>a</sup> Book 1.

<sup>r</sup> Odyss. l. 1. v. 387. l. 16. v. 401.; Arist. polit. l. 3. c. 14. p. 357. A.; Thucyd. l. 1. p. 12. lin. 71. The genealogy which Homer makes of the sceptre of Agamemnon, Iliad. l. 2. v. 46. & 101. is alone sufficient to prove that the crown was hereditary among the Greeks; but this fact is elsewhere established by a number of passages of the same poet.

<sup>r</sup> Apollod. l. 3. p. 202.; Diod. l. 5. p. 376. lin. 96. l. 6. fragm.; Apud. Syncell. p. 179. C.

<sup>r</sup> Odyss. l. 3. v. 215. See also l. 16. v. 96. & Eustath. p. 1464. lin. 25.

<sup>u</sup> See art. 2. & 3.



to found a new city, avert some calamity, establish new laws, reform ancient ones, change the constitution of the state, they had recourse to the oracle. Its answer was the supreme authority which determined and influenced the people. If a private person wanted to marry, undertake a voyage, had he an important affair in hand, was attacked with a dangerous distemper, he went and consulted the oracle. In a word, nothing more generally influenced the conduct of the ancient people of Greece \*. 'Tis to the oracles that we must ascribe most of the great events we read of in the first ages in the Greek history ; events, for the most part, singular, unexpected, and of which we find no example in the latter ages. We see among those of which we are now speaking, revolutions and sudden changes, which can neither be attributed to policy nor the force of arms. From whence then did they spring ? From oracles. They even directed the manner of bringing about these events. They threw that uncertainty on them which we always look on with astonishment. We ought also to ascribe to oracles the new sorts of worship which we know to have been introduced at different times into Greece.

All these movements sprung from a principle unknown to us at present. In this consists the most essential and most remarkable difference of the genius of former nations, and those of this time. At this day among the people of Europe, policy and the force of arms are the only means ambition can employ. We very seldom see superstition seduce the minds to such a pitch as to occasion revolutions ; but in the times I mention, it was always this seduction that occasioned revolutions, and decided the fate of empires. And what means did they use to effect this seduction ? The oracles.

If we wanted evidences to prove the rudeness and ignorance of the Greeks in the heroic times, their credulity, and their respect for oracles, are proofs more than sufficient

\* See Plat. de leg. l. 6. p. 869. A. & l. 8. *init.*

to demonstrate that truth. This species of superstition has no force or empire but proportionally to the gross ignorance of the people: witness the savages, who do not undertake any thing till they have previously consulted their divines and their oracles.

## A R T I C L E VIII.

### *Of the ancient customs and first laws of Greece.*

**B**Efore we enter on the subject, it is proper to recapitulate summarily what I have said in the first part of this work, of the origin and distinction of laws. I have shewn that, originally, the people were governed by *customs*, which, by length of time and long usage, acquired the force of *laws*. We have called these sorts of laws, *natural laws*. I have said afterwards, that to make up for the little extent and precision of these natural laws, the first kings had made different regulations, to which we have given the name of *positive laws*. I have distinguished these positive laws into two classes; into *political laws*, and *civil laws*. The reader cannot have forgot, that under the name of *political laws*, I have comprised all the rules which relate to the supporting the civil government of the society, and properly form the constitution of the state. Such are the laws on the obligations of marriage; the penal laws, those which prescribe the form and ceremonies of public worship, &c. I have included under the name of *civil laws*, all those established to regulate the particular interests of the different members of the society. Such are the laws concerning sales, commerce, contracts, &c. I have said also, that the institution of political laws was prior to the institution of civil laws. We shall discover from what history acquaints us of the establishment and progress of the laws of Greece, the truth of all these propositions.

We know of no positive laws in Greece more ancient  
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than those of the Athenians. They were indebted for them to Cecrops, who ascended the throne about 1582 years before Christ. It is true, before this prince, Phoroneus had given some laws to the inhabitants of the Argolide. But there are none of them preserved. Besides, it does not appear, that the other people of Greece have ever borrowed any thing from the Argives; whereas the laws of Athens have been adopted, not only in almost all the cities of Greece, but even in the greatest part of Europe<sup>y</sup>.

We must then fix the epoch of the establishment of positive laws in Greece to the year 1582 before the Christian æra, the time of the arrival of Cecrops in Attica. But it is not natural to suppose, that till the time of this prince, Greece was without any kind of law. We ought then to conclude, that, till that time, the greatest part of the Greeks knew no other laws but those tacit conventions, which I have affirmed to have been the basis and foundation of all societies, and which I have called *natural laws*<sup>z</sup>.

Having given a particular account of the rules established by Cecrops, in the article of Athens; the reader may have observed, that all these regulations are only political institutions; as the institution of marriage, the ceremonies of religion, those of funerals, and the establishment of tribunals to judge of crimes and offences. There is no mention made of any ordinance which one can range in the class of civil laws. We ought not to be surpris'd at this. The Athenians, like all the other people of Greece, had not yet applied themselves to agriculture, the practice of which was not well established in that part of Europe, till towards the reign of Erechtheus, about 170 years after Cecrops<sup>a</sup>. It is at this æra we ought to fix the knowledge and establishment of civil laws among the Greeks<sup>b</sup>.

<sup>y</sup> Adfunt Athenienses, unde humanitas, doctrina, religio, fruges, jura, leges ortæ, atque in omnes terras distributæ putantur. Cicero pro L. Flacco, n. 26. t. 5. p. 261.; Lucretius, l. 6. *init.*; Macrob. sat. l. 3. c. 12. p. 413.

<sup>z</sup> See part 1. book 1.

<sup>a</sup> Marm. Oxon. cp. 12.

<sup>b</sup> See what I have said on this subject, part 1. book 1.

Here is, then, in a few words, a faithful account of the origin and progress of the laws of Greece. But it must be observed, that in the detail we are going to enter upon, I shall follow the order of the matters, rather than strict chronology, which would too much interrupt the series and connection of objects; yet I shall make mention of no laws whose establishment does not relate to the ages we are now examining.

The state of barbarism into which Greece was plunged before the arrival of the different colonies which came from Egypt and Phœnicia to settle there, permitted the inhabitants to live in great liberty in their commerce with women. The engagements and bonds of conjugal union were totally unknown to them. Cecrops was the first who drew them from this disorder; he convinced them that marriage was the foundation and support of society. He established the union of *one* with *one* <sup>c</sup>. From this prince the Greeks subjected themselves inviolably to that law. They even conceived so high an idea of the conjugal union, that there passed above two centuries, before the widows durst marry again: a proof that they looked upon these second marriages to be contrary to good morals, is, that history has transmitted the name of her who first entered on a second marriage. It was Gorgophona, daughter of Perseus and Andromeda, who gave the example. This princess having first espoused Perieres, King of the Messenians, and having survived that prince, she married again to Oebalus, King of Sparta <sup>d</sup>. Oebalus reigned about 1348 years before Christ. They fix the epocha of Cecrops 1582 years before it. Thus, for the space of 234 years, the Greek history does not furnish one example of a widow who was remarried; and, till Gorgophona, it was a custom which they looked upon as inviolable, that every woman who lost her husband should pass the rest of her days in widowhood <sup>e</sup>.

<sup>c</sup> Book I. article I.

<sup>d</sup> Paus. I. 2. c. 21.

<sup>e</sup> Paus. I. 2. c. 21.



In all appearance, the example of Gorgophona was not long of being followed: yet it appears, that, in the heroic times, the widows who remarried, offended against decency. This is what one may fairly conclude, from the different words which Homer puts into the mouth of Penelope. The discourse which Ulysses had with that princess, the moment of his departure for Troy, is still more positive; he says to her, “That he does not know whether he should escape from the dangers of that war; and, if he should perish there, she should chuse, as husband, the prince who appeared most worthy of her.” It is true, Virgil makes Dido speak quite another language. There is a perpetual combat in the heart of that unfortunate Queen, between the liking she has taken for Æneas, and the remorse of entering on a second marriage. She represents this action, as an offence against her honour. But Virgil would not have made Dido speak thus, but in compliance with the manner of thinking of the Romans, with whom second marriages, though permitted, were dishonourable.

Hesiod gives us reason to think, that anciently it was the custom in Greece, not to marry the young men till they were thirty, and the girls till they were fifteen. Presages determined the moment in which the marriage ought to be solemnized. To this they paid great attention. There is great reason to believe, that in the earliest times, they determined nothing relating to the degrees of consanguinity: except the union of fathers and

<sup>†</sup> Odyss. l. 18. v. 258. &c.

<sup>‡</sup> Æneid. l. 4. v. 19. 25. -- 54.

Huic uni forsan potui succumbere culpæ,

Vel pater omnipotens. -----

Ante, pudor, quam te violem, aut tua jura resolvam.

----- Solvitque pudorem, &c.

<sup>h</sup> Val. Max. l. 2. c. 1. n. 3.; Martial. l. 6. epig. 7.; Quintil. declam. 366. p. 627.

<sup>i</sup> Opera & dies, v. 696, &c. On this custom is founded the calculation by which Herodotus, imitated in this by the greatest part of the ancient chronologers, estimates the generations at thirty-three years, and reckons an hundred years for three generations. l. 2. n. 142.

<sup>k</sup> Hesiod loco. cit. v. 801.

mothers with their children, all other alliances seem to have been permitted<sup>1</sup>.

Children could not contract any alliance without the consent of their fathers, who had a right to determine about their settlement<sup>m</sup>. They brought them up to have a great respect for those who had given them birth. It is even one of the most ancient statutes of Greece. In the laws attributed to Triptolemus, we find one which expressly orders to honour parents<sup>n</sup>.

At this time, a great number of children is looked upon as a burthen; but, in the first ages of Greece, it was an honour and an advantage to be the father of a numerous family. The Greeks greatly esteemed fruitfulness. Plutarch observes, that Pelops was the most powerful and most considerable of all the kings his cotemporaries, not only by his riches, but yet more by the number of children he was the father of<sup>o</sup>. The ancient poets greatly extolled the happiness of Priam, for being the father of fifty children. We see in scripture, David glories for having had many children<sup>p</sup>. It was likewise a very great reproach for a woman to be barren<sup>q</sup>. The Chinese are of the same opinion. They look upon barrenness with so much horror, that married people had rather have committed the greatest crimes, than die without children. The leaving no posterity, is ranked among the greatest of evils<sup>r</sup>.

The Greeks thought the same. They looked upon a man who died without children, to have had the worst lot in the world. Phoenix, in the Iliad, wanting to shew with what an excess of passion his father was transported against him; “He invoked,” says he, “the terrible furies, conjuring them, that I might never have to sit upon my knee, “a son from my own body<sup>s</sup>.” It was to remedy, in some measure, the misfortune of not having children, that

<sup>1</sup> Feithius antiq. Hom. l. 2. c. 13. p. 216.

<sup>m</sup> Porphyrius de abst. l. 4. p. 431.

<sup>p</sup> 1 Chron. c. 28. v. 5.

<sup>q</sup> Gen. c. 30. v. 23.; 1 Sam. c. 1. v. 5.; Luke c. 1. v. 25.

<sup>r</sup> Martini. hist. de la Chine, l. 6. p. 21.; Lettr. edif. t. 5. p. 56.

<sup>s</sup> L. 9. v. 455. &c.

<sup>m</sup> Ibid. p. 219. 220.

<sup>o</sup> In Thef. p. 2. A.



the Greeks contrived adoption, a custom that was very ancient. Pausanias tells us, that Athamas, king of Orchomeno, seeing himself without male issue, adopted his grand-nephews<sup>t</sup>. Diodorus supplies us with another example of the same antiquity<sup>u</sup>: and Plutarch says, that Castor and Pollux, having made themselves masters of Athens, demanded to be initiated into the great mysteries; but they were not admitted, till they were adopted by Aphidnes, as Hercules had been by Pylius<sup>x</sup>. It is probable, that the Greeks took this custom from the Egyptians, among whom we see it was established in the most remote times<sup>y</sup>.

The girls who died without being married, were thought very unhappy. Herodotus gives us a very striking proof of this way of thinking in the adventure of Polycrates, tyrant of Samos. Polycrates, seduced by the promises of Orates, governor of Sardis, was going to meet that viceroy: his daughter, who presaged nothing but misfortunes from the journey, used all her efforts to dissuade him from it. Seeing that he would go, in spite of all her remonstrances, she plainly told him, that nothing but misfortunes would happen to him. Polycrates, angry at her speech, and willing to shew his resentment, threatened not to marry her for a long time, if he returned safe and sound from the journey. But this menace was not sufficient to silence her zeal. She wished its accomplishment; liking better, says Herodotus, to be without a husband, than to be deprived of her father<sup>z</sup>. We see, likewise, in Sophocles, Electra bewailing bitterly her not being married<sup>a</sup>.

I have remarked in the first part of this work, that originally whoever addressed a woman for marriage in some

<sup>t</sup> L. 9. c. 34.

<sup>u</sup> L. 4. p. 312.

<sup>x</sup> Plut. in Thef. p. 16. A.

<sup>y</sup> Exod. c. 2. v. 10.

<sup>z</sup> L. 3. n. 124.

<sup>a</sup> In Electra, v. 166. 167. Tradition says, that this princess was never married, and that made them give her the name of Electra. Ælian. var. hist. l. 4. c. 26. ----- Paus. l. 2. c. 16. and Hygin. fab. 122. nevertheless say, that Orestes had married that princess to Pylades; and, according to the testimony of Hellanicus, she had two children by him. But this opinion does not appear to have been much followed by the ancients.



sense bought her, either by services he did to the father of her he would marry, or by presents which he made to herself<sup>b</sup>. This custom was also observed in Greece in the most remote times<sup>c</sup>. He who wanted a wife, was obliged to make presents of two sorts; one to the father, to engage him to give his daughter; and the other, to the person whom he demanded in marriage. In the Iliad, Agamemnon says to Achilles, that he will give him one of his daughters, without requiring of that prince the least present<sup>d</sup>. Pausanias also gives us a proof of this ancient usage: Danaus, says this author, not finding any body to marry his daughters, on account of the horrible crime they had committed, caused it to be published that he would not demand any presents of those who would marry them<sup>e</sup>. At this day it is a custom among the Greeks, that whoever will marry, buys his wife by the presents he is obliged to make to the parents of her he marries<sup>f</sup>.

Yet we see that anciently the presents the husband made, whether to the father-in-law, or to the person he was to marry, did not excuse the father from giving to his daughter a certain portion, and this properly made the dower of the bride<sup>g</sup>. And when a widow chose to marry again, the custom was, that she could not dispose of her dower that she had on her first marriage, nor carry it to her second husband. All her possessions from that moment devolved to the children of her first marriage. Her father was obliged to give her a new dower<sup>h</sup>: But if it happened that a son was so unnatural as to turn out his mother from his father's house, he was obliged to give her all that she had brought<sup>i</sup>.

As to the form in which they made these contracts of marriage, I have before observed, that at the time when writing was not known, they did all in the presence of wit-

<sup>b</sup> Book I.    <sup>c</sup> Arist. polit. l. 2. c. 8. p. 327. B.

<sup>d</sup> L. 9. v. 146. Homer does not speak of the present made to the bride; but only of that to be made to the father. The presents made to the bride were called *ἑναι*. See Meziriac. in Ovid. ep. t. 2. p. 317.

<sup>e</sup> L. 3. c. 12.    <sup>f</sup> Voyage de la Boulaye, le Gouz. p. 411.

<sup>g</sup> Iliad. l. 9. v. 147. 148. The dower which the father gave to his daughter was called *μυρία*. Ibid.

<sup>h</sup> Odyss. l. 2. v. 53.

<sup>i</sup> Ibid. v. 132. 133.



nesses<sup>k</sup>. We find the same practised in the primitive ages of Greece. Before these people knew writing, the practice was to give pledges and securities for the assurance of the dower and the marriage-contract<sup>l</sup>. It even appears from Homer, that the Greeks were a long time without knowing the use of written contracts and obligations. It was the deposition of witnesses which made the proof of the reality of deeds<sup>m</sup>: and it was also for this reason that anciently among the Greeks, as well as among all other people, judgments were given before all the world in a public square<sup>n</sup>.

We see that in the heroic times there were in Greece penalties established against adultery. Those who were accused, were obliged to pay a pecuniary fine to the husband who had convicted them<sup>o</sup>. The father of the wife taken in adultery was likewise obliged to give back to his son-in-law, all the presents that he had received for his daughter<sup>p</sup>.

I have already said that Cecrops had established marriage one with one; therefore the plurality of wives was not allowed among the Greeks. They could only marry one<sup>q</sup>. But it appears, that, from the most ancient times, it was permitted to divorce, when they thought they had lawful reasons<sup>r</sup>. What surprises me most, is, that unlawful commerces were not then dishonourable. The birth of children which proceeded from them, was not looked upon as scandalous. Agamemnon, to encourage Teucer, brother of Ajax, to continue his exploits, represents to him, that, though he was not the legitimate son of Telamon, that prince had not given less attention or taken less care of his education<sup>s</sup>. Now, if there had been at that time any sort of shame attached to these sorts of births, it is not probable that Homer would have made Agamemnon make such a reproach to one of the

<sup>k</sup> Part 1. book 1.

<sup>l</sup> Pollux l. 3. c. 3. segm. 36.; Servius ad Æneid. l. 10. v. 79.

<sup>m</sup> Iliad. l. 18. v. 499. &c.

<sup>n</sup> Ibid. v. 497. 498. &c. See part 1. book 1.

<sup>o</sup> Odyss. l. 8. v. 322. 347. & 348. See also Diod. l. 12. p. 491. lin. 89.

<sup>p</sup> Odyss. l. 8. v. 318.

<sup>q</sup> Herod. l. 2. n. 92.

<sup>r</sup> See Paus. l. 10. c. 29. p. 870.; Pollux. l. 3. c. 4. segm. 46.

<sup>s</sup> L. 8. v. 231. &c.

principal officers of the army, and with whom he in other respects appears to be well satisfied.

We see likewise in the *Odyſſee*, Ulyſſes ſays he was the ſon of a concubine<sup>1</sup>. This is a proof that they avowed at that time theſe ſorts of births without any ſhame. It is likewiſe ſaid in ſcripture, that Gideon had ſeventy children from the many women he had married, and by a concubine, who had even been his ſervant, he had a ſon called Abimelech, who after the death of his father was King of Sichem<sup>2</sup>. With our anceſtors baſtardy had nothing diſhonourable in it. Hiſtorians give the title of baſtards to a number of the moſt illuſtrious and moſt conſiderable perſons. The famous Count de Dunois is not more known by that name than by that of the baſtard of Orleans. There is often mention made of the baſtard of Rubempré, and many others. It was even a quality which they did not fear to uſe in their public acts. We often find ſigned, *ſuch a one*, baſtard of *ſuch a one*. The letters patent granted by William the Conqueror to Alain, Count of Britany, begin thus, “ William, called the *Paſtard*, King of England, &c.<sup>3</sup>.” But to return to the Greeks: The lawful children inherited the goods of their fathers and mothers<sup>4</sup>: if they were many, they divided the inheritance; and it does not appear that at that time there was any regard paid to ſeniority. This was the manner in which they proceeded to divide. They made with the utmoſt exactneſs as many lots as there were heirs, and afterwards drew them<sup>5</sup>.

This method was not confined to the diviſion of the goods of particulars. It took place even in the houſes of ſovereigns. Neptune, in the *Iliad*, ſays to Iris who came from Jupiter to order him not to ſuccour the Greeks any more, that he was equal in dignity to Jupiter: “ We are,” adds he, “ three

<sup>1</sup> L. 14. v. 202.

<sup>2</sup> Judges c. 8. v. 30. 31. c. 9. v. 6. & 18. Non enim erat vetitus eo tempore concubinatus, neque concubina a matrona, niſi dignitate, diſtabat, ſays Gro- tius on this paſſage.

<sup>3</sup> Mem. de Trevoux. Janv. 1711. p. 118.

<sup>4</sup> Odyſſ. l. 7. v. 149.

<sup>5</sup> Odyſſ. l. 14. v. 208.; Ariſt. polit. l. 6. c. 4. p. 417. B.



“ brothers, all three sons of Saturn and Rhea. Jupiter is  
 “ the first, I the second, and Pluto the third; the empire  
 “ was divided among us. They made three lots, which  
 “ were not distributed according to the order of birth. They  
 “ drew the chances, and it was fortune which determined  
 “ the part that each should have <sup>a</sup>.” One might quote many  
 more examples of this ancient practice <sup>b</sup>. Though in the di-  
 vision of estates the condition of the brothers was equal,  
 yet they had great privileges attached to the right of seni-  
 ority. These privileges consisted in the honour and respect  
 which the younger were obliged to pay to their elder bro-  
 thers, and in the authority the elder had over the younger. We  
 might even say, that the Greeks looked upon the right of se-  
 niority as a right divine. Homer gives us a very sensible  
 proof in the passage of the Iliad I am going to cite. Jupiter  
 on sending Iris to carry his orders to Neptune, says to that  
 goddess: “ My brother ought to know, that, in quality of el-  
 “ dest, I am above him <sup>c</sup>.” Neptune makes some difficul-  
 ty to obey the orders of Jupiter: Iris, to determine him, in-  
 sists on the quality of Jupiter, and asks Neptune, if he is  
 ignorant, “ that the black furies always accompany the  
 eldest, to revenge the outrages they receive from their bro-  
 thers <sup>d</sup>.”

The children of concubines had no right to the inheri-  
 tance of their fathers; for in those sorts of commerces they  
 had neither conventions nor solemnities. Accordingly we  
 see none of the children who sprung from them, partake in  
 the succession with the legitimate children. They had only  
 what their brothers chose to give to them <sup>e</sup>: even the order  
 of successions was so well regulated, that when any one died  
 without issue, his effects went to his collateral relations <sup>f</sup>.

The

<sup>a</sup> L. 15. v. 186. &c. Virgil has exactly followed this tradition. He makes Neptune also say that the empire of the sea fell to him by lot. Sed mihi sorte datum. Æneid. l. 1. v. 138.

<sup>b</sup> See what we have said above of the division of Peloponnesus among the descendents of Hercules, art. 7. See Apollod. l. 1. p. 4.; Diod. l. 3. p. 229.; Paus. l. 8. c. 53.; Strab. l. 9. p. 601. B.

<sup>c</sup> L. 15. v. 165. 166.

<sup>d</sup> Ibid. v. 204.

<sup>e</sup> Odyss. l. 14. v. 210.

<sup>f</sup> *Νῦνται δὲ διὰ κτῆσιν διακέρτα.* Iliad: l. 5. v. 158.

The same spirit of order which had assigned to each a certain quantity of goods for their subsistence, made them look with contempt on those men whom sloth kept from labour, and who were so mean as to live on the liberality of rich people. When Ulysses, in the *Odyssey*, in the form of a beggar, presents himself to Eurymachus; that prince seeing him strong and robust, offers him work and good wages: but at the same time gives him to understand, that they had too many of those beggars by profession, who liking better to live in idleness, than to get their bread by an honest industry, were the object of general contempt<sup>a</sup>. They had also the highest contempt for those people who having no fixed place of residence, wandered continually from city to city. They looked upon a vagabond as an exile, as a wretch, who having abandoned his country, ought to be cast out from society<sup>b</sup>.

But what is most astonishing, is, that then theft was not a dishonourable action<sup>c</sup>. The ancients made no scruple about it. It was only shameful when they were taken in the fact<sup>d</sup>.

The greatest part of the laws which I have just given an account of, were not in use till after the establishment of agriculture. The first legislators of Greece had omitted nothing to engage their people to apply themselves to

Eustathius, p. 533. lin. 37. and the ancient scholiast understand by the word, *χρησται*, *trustees*; and from this they supposed magistrates established to take care of the effects of old men who had lost their children, and to preserve them for their collateral relations, by hindering those unhappy fathers from disposing of them. But besides that neither Eustathius, nor the ancient scholiast, have quoted any author who mentions the establishment of these pretended magistrates, if they had attended to the word *δαίοντο*, to which *χρησται* is the nominative, they might have seen plainly that *χρησται* could not on that occasion signify *trustees*. Trustees, in effect, never share in the succession; but, agreeable to the etymology of their name, they are charged with the care of it. It is certain then, that in this passage *χρησται* ought to be understood of collaterals. It is taken in this sense by Hesiod. *Theog.* v. 626. after whom Hesychius, voce *χρησται*, says expressly *χρησται οἱ μακροὶν συγγενεῖς*; they call *χρησται*, very distant relations. See also Pollux, l. 3. c. 4. segm. 47. and the scholiast of Hesiod, p. 287.

<sup>a</sup> L. 13. v. 356. &c.

<sup>b</sup> *Iliad*. l. 9. v. 644. l. 16. v. 423. See what Plato says on this subject by Socrates, in *Crito*.

<sup>c</sup> *Iliad* l. 6. v. 153.; *Odyssey* l. 19. v. 395. See Feith. l. 2. c. 9.

<sup>d</sup> Suid. in voce *Κλέπτης*, t. 2. p. 327.



the culture of the earth<sup>1</sup>. For this end they had established many wise and most useful laws, as the prohibition to have above a certain quantity of arable land; of selling and alienating their inheritance. They had likewise a law which prohibited their mortgaging their arable lands<sup>m</sup>. All these laws, according to Aristotle, were of the highest antiquity, and go back to the ages of which we are now giving the history<sup>n</sup>.

I have said it was in the reign of Erechtheus, the sixth King of Athens from Cecrops, that the knowledge of tillage was dispersed over Greece under the auspices of Ceres and Triptolemus. As the establishment of agriculture necessarily implies the institution of civil laws, all the writers of antiquity have attributed the first laws of Greece to Ceres and Triptolemus<sup>o</sup>. The most certain and most general tradition says, that the Athenians were the first to whom Ceres taught agriculture<sup>p</sup>. Accordingly we have seen, that they passed for the authors of all civil laws<sup>q</sup>. They have likewise attributed to them the invention of all the forms of justice and the order of proceedings<sup>r</sup>.

To this short explanation, I shall confine myself as to

<sup>1</sup> It is remarked, that, in all the ancient traditions of Greece, Neptune is always said to have failed in his disputes with Minerva, Apollo, and the other gods. See Plut. t. 2. p. 741.; Paus. l. 2. c. 1. p. 112. c. 15. p. 145.

Plutarch even says, that the dispute between Minerva and Neptune, to know whether she or the god should be patron of Athens, and the success of Minerva, was a fable invented and propagated by the ancient kings of Greece, to take from their people the desire of going to sea, and to bring them to cultivate the earth. In Themistocle, p. 121. E.

<sup>m</sup> Arist. polit. l. 2. c. 7. p. 323. l. 6. c. 4. p. 417.

<sup>n</sup> Ibid.

<sup>o</sup> A quibus initia vitae atque victus, legum, morum, mansuetudinis, humanitatis exempla hominibus et civitatibus data ac dispartita esse dicuntur. Cicero in Verr. act. 5. n. 72. t. 4. p. 478.

Prima Ceres - - -

Prima dedit leges. Cereris sunt omnia munus. Ovid. Met. l. 5. v. 241. &c.; Diod. l. 1. p. 18. l. 5. p. 324. & 385.; Plin. l. 7. sect. 57. p. 412.; Macrob. sat. l. 3. c. 12. p. 413.

It is for this reason that we so often find the epithet *θεσμοπόρος*, *legifera*, given to Ceres. See the historical explication of the fable of Ceres by Le Clerc. Bibl. Univ. t. 6. p. 47.

<sup>p</sup> Cicero in Verr. act. 4. n. 49. t. 4. p. 396.; Diod l. 1. p. 34. l. 5. p. 333. 385.

<sup>q</sup> Art. 8. <sup>r</sup> Allan. var. hist. l. 3. c. 38.

what I have to say of the origin and establishment of the civil laws of Greece. The writers of antiquity have transmitted to us no particulars on an object so important. They not only do not relate the purport of any law, they do not even acquaint us who were the magistrates or the tribunals established for determining civil disputes. It is likewise remarkable enough, that in the few laws that are preserved, attributed to Triptolemus, political rules only are mentioned. See these laws as reported by Porphyry <sup>†</sup>.

The first, which we have already had occasion to speak of, ordains to honour our parents <sup>†</sup>.

The second forbids to offer any thing to the gods but the fruits of the earth.

The third ordains to do no harm to animals.

These laws did nothing but renew and confirm those of Cecrops, who, in instituting a regular worship in Greece, had forbidden to offer any thing to the Deity that had life <sup>‡</sup>. I cannot on this occasion dispense with myself from saying a word or two of the famous mysteries of Eleusis.

I have shown before, that Cecrops first taught the Greeks to honour the Supreme Being by a public and solemn worship <sup>§</sup>. But the religious ceremonies established by that prince, did not produce so distinguished an effect as the institution of the mysteries celebrated at Eleusis in honour of Ceres. Of all the observances of the Pagan religion, the ceremonies used in these mysteries were those which most attracted the admiration and respect of the ancients. They ascribe the institution to Erechtheus, the same under whom the knowledge of agriculture came into Greece <sup>¶</sup>. I shall not undertake to remove the obscure veil which deprives us of the knowledge of these ceremonies so boasted of in antiquity. I shall only remark, that the most judicious and best instructed writers of Greece and Rome were persuaded, that these mysteries had contributed more than any other means to soften the savage manners of the first inhabitants of Eu-

<sup>†</sup> De abstin. l. 4. p. 431.    <sup>‡</sup> Art. 8.    <sup>§</sup> Art. 1.    <sup>x</sup> Art. 1.

<sup>¶</sup> Diod. l. 1. p. 24; Marm. Oxon. ep. 14.



rope. They have not hesitated to attribute to these religious ceremonies, all the knowledge and politeness which the most enlightened ages enjoyed. "These are the mysteries," says Cicero, "which have drawn us from the barbarous and savage life our ancestors led. It is the greatest good that has come to us from the city of Athens, among so many that she has spread among mankind. It is she that has taught us not only to live with joy, but still more to die with tranquillity, in the hope of becoming more happy <sup>z</sup>." Isocrates had said as much a long time before <sup>a</sup>. The Greeks designed the mysteries of Eleusis by a word which in their language signified *perfections* <sup>b</sup>, because in initiation they acquired, as they believed, the knowledge of truth and the love of virtue. The Latins express these mysteries by the term *initia*, *beginnings*; because, says Cicero, the doctrine taught in the mysteries, contains the principles of an happy and tranquil life. Thus the two most polished and learned nations of antiquity were persuaded, that they could not give sufficient praise to the establishment of the Eleusinia. It now only remains, that I should say something of the ancient penal laws of Greece.

The penal laws are justly those about which the first legislators of Greece seem to have most employed themselves. Historians place in the ages we are now examining, the institution of many tribunals, whose only business was to judge of criminal matters.

The Areopagus was the most ancient tribunal of Greece, and it was to take cognisance of murders that Cecrops had established it <sup>c</sup>. Originally, the Areopagi had cognisance over all sorts of homicides. But afterwards their jurisdiction was confined to murders committed with premeditated design <sup>d</sup>. They erected, a few ages after the Areopagus, an-

<sup>z</sup> De leg. 1. 2 n. 14. t. 3. p. 148.

<sup>a</sup> In panegy. p. 65.

<sup>b</sup> Τελεταί.

<sup>c</sup> Isocrat. panegy. p. 69. See also Demost. in Aristocrat. p. 735.; Plin. l. 7. sect. 57. p. 415.; Paus. l. 4. c. 5. *init*.

<sup>d</sup> Demosth. in Aristocrat. p. 728. E.; Ælian. var. hist. l. 5. c. 15.

other tribunal called Delphinium, to judge those who, acknowledging they were guilty of homicide, pretended to have had reason for committing it <sup>c</sup>. It was at this tribunal that Theseus was acquitted, when he had put to death the children of Pallas, and Pallas himself, who had plotted against the state <sup>d</sup>. They afterwards established the Palladium, where those who had committed an involuntary murder presented themselves <sup>e</sup>. Demophoon, son of Theseus, was the first who appeared before this tribunal <sup>f</sup>.

The laws of Greece agreed in this with those of Egypt, to punish with death homicide committed with a premeditated design <sup>g</sup>. Dedalus having been accused and convicted before the Areopagus for having killed his nephew Talus, was condemned to death by that tribunal, and only saved himself from the punishment of his crime by flight, and retiring into the isle of Crete <sup>h</sup>. I shall observe on this subject, that among the Greeks it was very easy for murderers to escape from the punishments they feared.

The manner in which they proceeded in Greece in the prosecution for murders, was very different from that they use in our tribunals. In France, the care of the pursuit and punishing murderers belongs to the public administration. The first step that justice takes on these occasions, is to arrest the accused, against whom complaint has been made; they afterwards examine whether he is really guilty of the crime imputed to him, and he is retained in prison till final judgment is given. It was not so with the Greeks; they had no public officer charged by the state to look after murderers. The relations of the deceased alone had the right to pursue revenge. Homer shews it clearly <sup>i</sup>. We may add to the

<sup>c</sup> Ibid.

<sup>d</sup> Paus. 1. c. 28. p. 70.

<sup>e</sup> Aelian. 1. 5. c. 15.

<sup>f</sup> Plaut. 1. 1. p. 69. See Pollux. 1. 8. c. 10.

<sup>g</sup> Demosth. in Midiam, p. 610. A.; in Aristocrat. p. 738. C. See also Plat. de leg. 1. 9. p. 934. B. p. 935. E.

<sup>h</sup> Diod. 1. 4. p. 319. & 320.; Apollod. 1. 3. p. 206.

<sup>i</sup> Iliad. 1. 9. v. 628. &c.



testimony of this great poet, that of Pausanias who speaks in many places of this ancient usage<sup>m</sup>: a usage that appears to have always subsisted in Greece<sup>n</sup>. But the same laws which had given to the relations of the deceased alone the right of prosecuting the murderer, expressly forbade that he should be delivered into their hands<sup>o</sup>; and as the public administration did not interfere to arrest the murderers, they enjoyed a full and absolute liberty during all the proceedings. Thus in a case where the guilty person might apprehend the just punishment of his crime, he could escape it by flight. No one had a right to stop him<sup>p</sup>. The only precaution he had to take, was to disappear after his first defence<sup>q</sup>. For when the proceedings were so far advanced, that the judges were going to pass sentence, the accused was then subject to all the severity of the laws; and if he was declared guilty and convicted of the crime laid to his charge, the magistrates seized on him to make him suffer the punishment to which he was condemned<sup>r</sup>. This provisional liberty which they left to the accused, proves clearly, that it was the custom to hear them twice before they delivered them to punishment. If the accused, whose crime was proved, had recourse to voluntary banishment, all his goods were confiscated, and sold by public auction<sup>s</sup>. I have already spoken of the custom to clear and acquit the accused when the judges were equally divided<sup>t</sup>. Before they would hear the accuser and the accused, they obliged them to deposit each a sum of money, which belonged to him who gained the cause. The law further condemned the accuser to pay a fine of a thousand drachmas, if he had not for him at least the fifth part of the votes<sup>u</sup>. If the accusation was proved,

<sup>m</sup> L. 5. c. 1. p. 376. l. 8. c. 34. p. 669.

<sup>n</sup> See Plat. de leg. l. 9. p. 930. 931. & 933.; Demosth. in Aristocrat. p. 736.; Pollux. l. 8. c. 10. segm. 118.

<sup>o</sup> Demosth. *loco cit.*

<sup>p</sup> Demosth. *ibid.*; Pollux. l. 8. c. 10. segm. 117.

<sup>q</sup> Demosth. Pollux. *locis cit.*

<sup>r</sup> Demosth. in Aristocrat. p. 736.

<sup>s</sup> Pollux. l. 8. c. 9. segm. 99. <sup>t</sup> Art. 3.

<sup>u</sup> Demosth. in Mid. p. 610. F. in Aristocrat. p. 738. C.; Plato in Apolog. Socrat. p. 27. E; Pollux l. 8. c. 6. segm. 41. & 53.

the laws granted to the accuser, the sad privilege of assisting at the punishment of the wretch whom he had convicted of a crime <sup>x</sup>; but it very seldom happened, that they executed homicides on account of the facility of flying from punishment <sup>y</sup>. For besides their being at liberty to fly, the law had given them a yet more effectual way to disarm justice, and even stay unmolested in their own country. They had only to find out proper ways of appeasing the relations of him who had been slain: they were then sure of impunity, and of never being disturbed; it was by money they commonly stifled these affairs. They gave a certain sum to the parties interested, to engage them to cease their prosecutions <sup>z</sup>.

The law would not have even an involuntary murder be entirely exempt from punishment, for fear, says Porphyry, that impunity, on these occasions, should give a scope to wicked persons to abuse the indulgence of the law <sup>a</sup>. Banishment was originally the punishment for involuntary murder with the Greeks <sup>b</sup>. Cephalus was condemned by the Areopagus to perpetual banishment for having involuntarily killed his wife Procris <sup>c</sup>. The laws in time abated a little of this rigour. We see in Homer, that, at the time of the war of Troy, murderers were not obliged to leave their country, but till they could appease the parents of him they had slain <sup>d</sup>. According to the report even of the scholiast on Euripides, accidental murderers were only obliged to absent themselves for a year <sup>e</sup>. Plato, in his laws, seems to have conformed to this ancient usage <sup>f</sup>.

But at the same time that the laws subjected to some punishment an involuntary murder, they had taken precautions to protect the murderer from the sudden vengeance the relations of the deceased might take for his loss. It is for this reason that we see asylums established among all the people of antiquity. This privilege, attached to cer-

<sup>x</sup> Demosth. in Aristocrat. p. 736.      <sup>y</sup> See Diod. l. 3. p. 177.

<sup>z</sup> Iliad. l. 9. v. 628. &c.      <sup>a</sup> De abst. l. 1. p. 16. &c.

<sup>b</sup> Apollod. l. 2. p. 116.; Demosth. adv. Aristocrat. p. 732. B.; Plut. t. 2. p. 299. C.

<sup>c</sup> Apollod. l. 3. p. 200.      <sup>d</sup> See Feithius, Antiq. Hom. l. 2. c. 8. p. 187.

<sup>e</sup> In Hippolyt. v. 35.      <sup>f</sup> L. 9. p. 929. F. p. 937. D.



tain places, to shelter the murderers from all pursuits, was very ancient and much respected by the Greeks. They believed that the asylum of Samothrace was established by Cybele <sup>s</sup>. One of the most ancient is that which Cadmus opened in Beotia <sup>h</sup>.

The place where the Areopagus assembled, was an inviolable asylum. Under Aphidas, who ascended the throne of Athens 1162 years before Christ, the oracle of Dodona forewarned the Athenians, that one day the Lacedæmonians being beaten would fly for refuge to the Areopagus, and that they should take care not to treat them ill. The Athenians remembered this advice, when, in the reign of Codrus, Peloponnesus leagued against Attica. We know what was the event of that war, and how the armies being in sight of each other, that of the enemy thought of making a retreat <sup>i</sup>. Some Lacedæmonians who were advanced to the gates of Athens, on this news found themselves in a cruel dilemma. All that they could do was to endeavour, under favour of the night, to hide themselves from the sight of the Athenians. When day appeared, they saved themselves in the Areopagus. They durst not attack them in that asylum, they were respected, and got leave to return safe and sound to their country <sup>k</sup>.

The favour of asylums was originally established only for involuntary murderers. In Thucydides the Athenians tell us very clearly, that the altars of the gods are not an asylum but to those who have had the misfortune to commit an involuntary murder <sup>l</sup>. We likewise see in Livy the murderer of King Eumenes obliged to abandon the asylum of the temple of Samothrace, as unworthy to enjoy it <sup>m</sup>. Moses, on establishing cities of refuge for involuntary murderers, formally excludes assassins from that privilege <sup>n</sup>.

For the rest, it was the same among the Greeks with involuntary murders as with premeditated homicides, that is to say, that the involuntary murderers could, by satisfying

<sup>s</sup> Diod. l. 3. p. 224. <sup>h</sup> Art. 4. <sup>i</sup> Art. 1. <sup>k</sup> Paus. l. 7. c. 25. *init.*

<sup>l</sup> L. 4. p. 296. line 95. <sup>m</sup> L. 45. n. 5. <sup>n</sup> Deut. c. 19. v. 11. & c.

the interested parties, remain quiet in their own country. It was likewise customary to give to the relations of the deceased a certain sum <sup>o</sup>. This policy sprung from a very wise principle. Among people little disciplined, enmities are dangerous, and most subject to occasion disagreeable consequences; it is therefore for the good of the public that they be easy to determine <sup>p</sup>. Thus we see among the ancient people, they had no crime from which they could not redeem themselves with money. Every thing was reduced to damages and reparations. For this reason they had not then, as at this time with us, any public officers charged with the care of the pursuit of criminals. The savages of America show us again the image of these times. With these people, the reparation of murder consists in a certain number of presents which the murderer is obliged to make to the relations of the deceased, to appease their resentment <sup>q</sup>.

Ancient legislators have omitted nothing to inspire their people with all the horror possible of murder, and shedding of blood. They looked upon those who had committed homicide as polluted, in whatever way it happened; and they ought, before they came again into society, to purify themselves by certain religious ceremonies. Theseus had done an important service to his country, by putting to death the robbers who infested it. Although these murders were very lawful, yet his first care was to have himself purified <sup>r</sup>. Homer makes Hector say, coming from battle, that he durst not make libations to Jupiter, before he was purified, because it was not permitted to pray with hands imbrued in blood <sup>s</sup>. Æneas, in Virgil, after having put many of his enemies to death, durst not touch his household gods till he was purified <sup>t</sup>. We might quote many more exam-

<sup>o</sup> Iliad. l. 18. v. 498. &c.      <sup>p</sup> See l'esprit des loix, t. 3. p. 102. & 328.

<sup>q</sup> Lescarbot, hist. de la Nouv. France, p. 395. & 798.; Meurs des sauvag. t. 1. p. 497. 491.

<sup>r</sup> Plut. in Thes. p. 5. C.; Paus. l. 1. c. 37. *init.*

<sup>s</sup> Iliad. l. 6. v. 265. &c.

<sup>t</sup> Aneid. l. 2. v. 717. &c.



ples<sup>u</sup>. A murderer who was banished his country for an involuntary homicide, was not permitted to return, though he had satisfied the relations of the deceased, before he was purified and had expiated the murder he had committed<sup>x</sup>. They ascribe to the reign of Pandion, the eighth King of Athens, the establishment of religious ceremonies, proper to purify homicides<sup>y</sup>.

We shall remark on this subject, that Moses ordained a solemn expiation for the murders of which they did not know the authors<sup>z</sup>. He ordains likewise that those who, in a just and legitimate war, had stained themselves by the effusion of the blood of the enemy, should not enter the camp, before they were purified<sup>a</sup>. With the Romans, the soldiers who followed the chariot of the conqueror, were crowned with laurel; to the end, says Festus, that they should not appear to enter the city, but when purified from the human blood which they had spilt<sup>b</sup>. The end of all these customs, was to inspire the greatest aversion for homicide.

We must, I believe, ascribe to the same principle of humanity, as well as policy, the prohibition of killing certain animals, so precisely settled by the first legislators of Greece. We have seen that Cecrops had forbidden to offer any thing that had life to the gods<sup>c</sup>. Triptolemus renewed that law, by ordering them to offer nothing but fruits<sup>d</sup>. But this second legislator went much farther; for he expressly forbids using ill the animals employed in tillage<sup>e</sup>. History has not disdained to preserve the circumstances which occasioned the death of the first ox, killed at Athens, and the consequence of that event<sup>f</sup>. This is one of those singular facts which merit a particular attention; it happened under Erechtheus, sixth King of A-

<sup>u</sup> See Marsh. p. 253.; Feithius, p. 187.

<sup>x</sup> Demosth. in Aristocrat. p. 736. E. See also Plat. de leg. l. 9. p. 930. &c.

<sup>y</sup> Marm. Oxon. ep. 15.; Marsh. p. 253.

<sup>z</sup> Deut. c. 21. v. 5. &c.

<sup>a</sup> Numb. c. 31. v. 19. & 24.

<sup>b</sup> Verbo *laureati*, p. 206.

<sup>c</sup> Art. 1.

<sup>d</sup> Ibid. 8.

<sup>e</sup> Ibid.

<sup>f</sup> Porphy. de abst. l. 2. p. 136. & 174.; Ælian. var. hist. l. 8. c. 3.; Paus. l. 1. c. 28. p. 70.

thens<sup>g</sup>. This event was so much the more remarkable, as it gave rise to the erection of the Prytaneum, a most renowned tribunal among the Athenians<sup>h</sup>. The business of the Prytanes was to commence processes against things inanimate, which had occasioned the death of any one<sup>i</sup>.

I finish what concerns the penal laws of Greece, by observing a perfect conformity between these laws and those of the Egyptians, in the punishment of pregnant women guilty of crimes deserving death: the Greeks, after the example of the Egyptians, waited to bring them to punishment, till they were delivered<sup>k</sup>.

What I find the most extraordinary in the ancient laws of Greece, is, that the legislators had not determined precisely the nature and duration of the punishment with which each crime ought to be punished<sup>l</sup>. They left it to the judges to apply the laws as they thought proper. Zaleucus, legislator of the Locrians, was, say they, the first who prescribed and explained in his laws the kinds and duration of punishments which they ought to inflict on criminals<sup>m</sup>.

We see, from what has been said, that the first laws of Greece were very shapeless; they favoured of the rudeness which reigned so long in that part of Europe<sup>n</sup>.

The Greeks, like all the ancient people, were some time before they knew the art of writing. Singing was then the only way to hand down to posterity what was necessary to be remembered<sup>o</sup>. This most simple and most natural method had been used to preserve the remembrance of the laws. For want of monuments, where they could deposite their laws, the first legislators set them to music, to make them be retained the more easily. The Greeks sung their laws. This is what made the same name be given to laws as to songs<sup>p</sup>. Aristotle, in his problems, inquiring into

<sup>g</sup> Paus. l. 1. c. 28. p. 70.

<sup>h</sup> Ibid. *loco cit.*; Pollux. l. 8. c. 10.

<sup>i</sup> Paus. l. 1. c. 28. p. 70. See the examples which he cites, l. 5. c. 27. p. 449. l. 6. c. 11. p. 478.

<sup>k</sup> Diod. l. 1. p. 88.; Ælian. var. hist. l. 5. c. 18.; Plut. t. 2. p. 552. D.

<sup>l</sup> Strabo, l. 6. p. 398.

<sup>m</sup> Ibid.

<sup>n</sup> Arist. polit. l. 2. c. 8. p. 327. B.

<sup>o</sup> See part 1. book 1.

<sup>p</sup> Νόμοι.



the reason of this conformity of names between two such different objects, it is, says he, that before the knowledge of writing, they sung the laws, lest they should forget them <sup>a</sup>.

The custom of putting the laws, and all that had relation to them, into song, prevailed so much in Greece, that it even continued after writing was introduced. The crier, who published the laws in most of the Greek cities, was subjected to regulated tones, and a measured declamation. He was accompanied by the sound of a lyre, like an actor upon the stage<sup>r</sup>. This manner of publishing the laws, the edicts, &c. had subsisted a long time among the Greeks. History has preserved one example too remarkable to be omitted.

On the night which followed the battle of Cheronea, Philip, intoxicated with good cheer and wine, and still more with the victory he had gained, went to the field of battle, yet covered with the dead bodies of the Athenians; where, to insult the dead, he parodied the decree which Demosthenes had proposed to excite the Greeks to take up arms. Philip sung then, beating time: "Demosthenes, son of Demosthenes the Pæonian, has said, &c." <sup>t</sup>

The Locrians of Italy were looked upon, in the writings of some authors of antiquity, for the first Grecians who had reduced their laws to writing<sup>†</sup>. But this fact does not appear to me to be exact; for, without speaking of

<sup>a</sup> Problem. sect. 19. problem. 28. Josephus and Plutarch suspect that the term νόμος, used to design laws, was modern, in comparison of the early times we are now speaking of; and that it was even later than the age of Homer, who, in his poems, never uses the word νόμος to signify laws, but θεμισαί, *jura*.

But Josephus and Plutarch, especially speaking dubiously, ought not to balance the authority of Aristotle about the antiquity of a Greek word; to say nothing of an hymn in honour of Apollo, attributed to Homer, where νόμος is used to signify law, or the method of singing, v. 20.

We likewise find the word νόμος used in Hesiod to signify laws, Op. & dies, v. 276.

<sup>r</sup> Graecarum quippe urbium multae ad lyram leges, decretaque publica recitabant. Martian. Capella de nupt. Philolog. l. 9. p. 313. See also Aelian. var. hist. l. 2. c. 39.; Stob. serm. 42. p. 291.

<sup>t</sup> Plut. in Demosth. p. 855. A.

<sup>†</sup> L. 6. p. 397.

Minos, who, by Plato's account, had committed his laws to writing<sup>u</sup>; without speaking of a law of Theseus, writ on a column of stone, which remained even to the time of Demosthenes<sup>x</sup>; it is certain, that Solon caused his laws to be written<sup>y</sup>; and Solon is prior by almost a century to Zaleucus, legislator of the Locrians. Yet I do not believe, that, at the time we are now speaking of, any people of Greece, except the Cretans, had a body of laws compiled and reduced to writing.

## ARTICLE IX.

### *Of the laws of Crete.*

**I** Had at first resolved not to speak of the Cretans. These islanders never joined with the other people of Greece; fixed in their isle, they scarce ever took part in the general affairs, and were not influenced by any event which did interest all the Greeks<sup>z</sup>. Yet we ought to look upon the Cretans, as making a part of the Greek nation, since they spoke the same language<sup>a</sup>. Besides, the laws of Crete of themselves merit our attention; they were a model for those which Lycurgus afterwards gave to the Lacedæmonians. It is therefore proper to speak of them, that we may remark the conformity there was between the laws of Crete and those of Sparta.

Of all the people of Greece, the Cretans were looked upon as the first who had written laws<sup>b</sup>. They were the work of Minos the First<sup>c</sup>. The high reputation of these laws, made this prince be ranked with the greatest legislators of antiquity.

The laws of Minos were founded on two principal mo-

<sup>u</sup> In Minoc, p. 568. E.

<sup>x</sup> In Neacram, p. 873. C.

<sup>y</sup> See part 3. book 1. c. 3. art. 1.

<sup>z</sup> Except in the war of Troy, they seem never to have concerned themselves in the affairs of Greece. See Herod. l. 7. n. 167. & 170. 171.

<sup>a</sup> That was the Doric dialect.

<sup>b</sup> Plat. in Min. p. 568. E.; Solinus, c. 11. p. 29; Isidor. orig. l. 14. c. 6.

<sup>c</sup> Sec mem. de l'academ. des inscript. t. 3. mem. p. 49.



tives, to form his subjects for war, and to promote an union of hearts. If Minos succeeded in the first of these objects, we shall see, that, with regard to the second, the event did not answer his expectations. With a view to establish a perfect union among his subjects, Minos laboured to make the most exact equality among them. For this purpose he ordained, that all the children should be fed and brought up together<sup>d</sup>. Their life was austere and sober. They were accustomed to be content with a little, to bear heat, cold, and to march over rugged and steep places. They were always clothed like soldiers, in a plain cloth, the same in winter as in summer. They were accustomed to have little combats with each other, to bear courageously the strokes they received; and, to conclude, says Strabo, even to their very diversions, all favoured of war, they even danced with arms in their hands<sup>e</sup>.

To unite their minds still more, and to bind them more intimately, Minos would have all the citizens eat together at the same tables<sup>f</sup>. They were fed at the expense of the state: it was paid out of the public treasury<sup>g</sup>. The young men eat on the ground, and waited on each other. They likewise waited on the men<sup>h</sup>. As in the army, the soldiers are obliged to eat all together, the intention of Minos, in establishing these public repasts, was to form his subjects in their infancy to military discipline. This is the only good that could spring from this custom. The institution of public meals did not succeed to maintain union and concord among the Cretans; we know that they were continually at war with each other<sup>i</sup>. They never agreed, but when they went to beat off a common enemy<sup>k</sup>. I

<sup>d</sup> Strabo, l. 10. p. 735. &c.

<sup>e</sup> Ibid. This dance was greatly celebrated in antiquity under the name of Pyrrhic.

<sup>f</sup> Arist. polit. l. 7. c. 10.; Strabo, l. 10. p. 736.

<sup>g</sup> Arist. ibid. and l. 2. c. 10. p. 332. E.; Strabo, l. 10. p. 736.

<sup>h</sup> Strabo, p. 739.

<sup>i</sup> Arist. polit. l. 2. c. 10. p. 333.

<sup>k</sup> Plut. t. 2. p. 490. B. It was from this conduct of the Cretans, according to Plutarch, that the proverbial expression came, so well known in Greece, to *syncretise*. They have since called *syncretistes*, those who undertook to reconcile the different sects. This word is often used by divines, but aways in a bad sense.

make not the least hesitation to ascribe these intestine divisions of the Cretans to the distinction of professions, which had place in Crete as well as in Egypt<sup>1</sup>.

We cannot sufficiently praise the attention Minos had with respect to magistrates and aged persons. He not only required that they should have for them the respect and regard which were their due; but further, lest they should fail, he forbade, in case they should remark any defects in them, to take notice of them before the young men<sup>m</sup>. He also used all the precautions which human prudence could suggest, to inspire the youth with the greatest respect and attachment for the maxims and customs of the state. The youth were not allowed to call in doubt, nor even to put in dispute the wisdom or utility of the rules by which they were instructed. This was what Plato found most admirable in the laws of Minos<sup>n</sup>.

In order to inspire the Cretans with a most profound veneration for his ordinances, Minos often retired into a cave, where he boasted of having familiar conversations with Jupiter<sup>o</sup>. But indeed he was neither the first, nor the only one of the ancient legislators, who thought they ought to be authorised by some divinity to make their laws be respected. Mneves, one of the most renowned and most ancient legislators of Egypt, attributed his to Hermes, otherwise called Mercury<sup>p</sup>. Lycurgus took care to avail himself of the suffrage of Apollo, before he began the reformation of Sparta<sup>q</sup>. Zaleucus, legislator of the Locrians, said he was inspired by Minerva<sup>r</sup>. Zathraustes, among the Arimaspes, declared that he had his ordinances from a genius adored by these people<sup>s</sup>. Zamolxis boasted to the Getes his intimate communications with the goddess Vesta<sup>t</sup>. Numa amused the Romans with his conversations with the nymph

<sup>1</sup> Arist. polit. l. 7. c. 10. See upon this article part 3. book. 1. c. 2.

<sup>m</sup> Plato de leg. l. 1. p. 775.

<sup>n</sup> Ibid.

<sup>o</sup> Hom. Odyss. l. 19. v. 179.; Plato in Minos, p. 568.; Horat. carm. l. 1. od. 28.; Diod. l. 1. p. 105.; Strabo, l. 16. p. 1105.; Val. Max. l. 1. c. 2. p. 37.; Plut. in Numa, p. 62. D.

<sup>p</sup> Diod. l. 1. p. 105.

<sup>q</sup> Ibid. loco cit.; Strabo, l. 16. p. 1105.; Plut. t. 2. p. 543. A.; Val. Max. l. 1. c. 2. p. 38.

<sup>r</sup> Diod. l. 1. p. 105.; Val. Max. l. 1. c. 2. p. 38.; Plut. in Numa, p. 62. D.

<sup>s</sup> Diod. loco cit.

<sup>t</sup> Ibid.; Strabo. l. 16. p. 1106.



Egeria <sup>u</sup>. We might quote many more examples. These facts, just to mention them, invincibly demonstrate that the primordial tradition of the existence of God was never lost, since, in all the known world, this belief was established time immemorial, and that so deeply, that the first legislators would avail themselves of it, to give to their laws a reputation more than human <sup>x</sup>.

The grand defect of Minos, in his political institutions, a defect into which Lycurgus fell after him, was not to have regarded any thing but war. This was the only end which the Cretan legislator seems to have proposed <sup>y</sup>. We have seen that it was solely by this motive that he was directed in the education of the youth. By a consequence of the same motive, the Cretans did not cultivate their lands themselves. Slaves known in antiquity by the name of *Periæcians*, were charged with this business. They were obliged every year to pay a certain sum to their masters <sup>z</sup>, from which were first levied the sums necessary for the exigences of the state <sup>a</sup>.

If the laws of Minos were good to make the Cretans excellent soldiers, they do not appear to have been equally proper to regulate their manners and their sentiments. Each citizen was obliged to marry <sup>b</sup>: but with what astonishment shall we not look on a legislator who could approve of a means so infamous as that which the Cretans made use of, lest they should have too many children? Whether in Crete the fertility or extent of the lands did not answer to the number of inhabitants, or that their bodies were more robust, or the women were more fruitful, Minos authorised, by his laws, a passion which nature disavows, and permitted an excess which modesty never mentions but with horror <sup>c</sup>.

<sup>u</sup> Plut. in Numa. p. 62. D.; Dion. Halic. l. 2. p. 122.; Val. Max. l. 1. c. 2.

<sup>x</sup> See Diod. l. 1. p. 105.; Strabo, l. 16. p. 1105. 1106.; Plut. in Numa, p. 62.; Dion. Halicarn. l. 2. p. 122. and the tract of opinion, t. 4. p. 513.

<sup>y</sup> Plato. de leg. l. 1. p. 769. &c.

<sup>z</sup> Arist. polit. l. 2. c. 10.; Strabo, l. 12. p. 817.; Plut. in Lacon. p. 239.; Athen. l. 6. p. 263. & 264.

<sup>a</sup> Arist. *loc. cit.* <sup>b</sup> Strabo, l. 10. p. 739. A.

<sup>c</sup> Arist. l. 2. c. 10. p. 333.; Strabo, l. 10. p. 739. & 740. Athen. l. 13. p. 602.; See also the manner in which they punished adultery in Crete. *Ælian var. hist.* l. 12. c. 12

## B O O K II.

*Of Arts and Manufactures.*

**I** Have endeavoured in the first part of this work to give an idea of the origin and discovery of the arts. I should have liked to have been able to have followed them from age to age, and fixed the degree of perfection, to which they were carried in each century. The deficiency of monuments has not permitted me to execute this project. We see only through the obscurity which surrounds the history of the people of Asia and that of the Egyptians, that these people knew very early many arts, and that their first progress was very rapid. We really find, a few ages after the deluge, the Egyptians, and some countries of Asia, in possession of many of the sciences which are the portion of polished people. The relation which I am going to make of the works executed by these nations, in the times which at present fix our attention, will be sufficient to convince us.

With respect to the Greeks, their knowledge in the arts was then very different from those of the people of Asia and the Egyptians. They were only, at the time we speak of at present, in their first elements. Greece languished many ages in ignorance and barbarity.

## S E C T I O N I.

*Of the state of Arts in Asia and Egypt.*

**I** Have thought fit to put in one and the same section, what I have to say in this second part of the state of arts in Asia and Egypt. The people of these countries seem to have advanced almost equally in the career of human knowledge. Their taste appears to have been almost the same; I will not therefore make separate articles for Asia and Egypt.



## C H A P. I.

*Of Agriculture.*

THE history of the people of Asia, in the ages which are the object of this second part, furnish us with nothing in particular of the state of agriculture properly so called. I think we can only perceive some traces which give room to think, that the art of gardening was then much cultivated in some countries of that part of the world. The Syrians are said to have understood gardening perfectly<sup>d</sup>, a proof that they had applied themselves to it a long time. We might say as much of the Phrygians. The gardens of Midas were very famous in antiquity; but there now remains no description of them.

Herodotus, who speaks of them, contents himself with saying, that there grew roses of a great size and admirable smell<sup>e</sup>. Homer will give us more lights on this subject. The description of the gardens of Alcinous will let us know what was the taste of the people of Asia, in this part of agriculture. The reader will perhaps be astonished at the relation which I establish between Asia and the isle of the Phæacians; but I think it sufficiently authorised\*.

Homer

<sup>d</sup> Plin. l. 20. sect. 16. p. 192.<sup>e</sup> L. 8. n. 138.

\* To this time they have always taken the isle of Corfu for the isle of the Phæacians, so famous in the poems of Homer. Yet I do not know if the reasons on which they found it are absolutely decisive. I think, on the contrary, facts may be found in the text of Homer, which will not suffer us to place the isle of the Phæacians in Europe.

The sole motive on which they establish the identity of the isle of the Phæacians with that of Corfu, is its nearness to Ithaca. It is not difficult to destroy this conjecture, and to shew it is supported on very weak foundations.

Homer has sown too many fables and put too many contradictions in the voyages of Ulysses, for its being possible to determine with any sort of certainty, the countries where he would make his hero land. Geographic exactness was not the end the poet proposed in the *Odyssée*. Every moment he displaces countries, and makes his routes, just as he thinks proper. In vain would we endeavour to find most of the countries he speaks of; the trial would be fruitless. I shall mention, for example, the isle of Oea, where

Homer is the most ancient author who has spoken expressly of gardens, and who took pleasure in describing them. His works then can instruct us in the species of trees and plants which were known and cultivated in these earliest times. We likewise find there the manner in which their gardens were disposed.

This

where the poet places the abode of Circe. Geographers pretend that it is the promontory Circei, situated on the western coast of Italy. But what resemblance can one find between the isle of Oea of Homer and the promontory Circei?

1. Homer says plainly that Circe lived in an isle, and not upon a promontory. 2. There never was a city of Oea in Italy. 3. Homer says the isle of Circe was situated in the ocean. We are not ignorant how far the promontory Circei is distant from it. Lastly, How can one reconcile the position of this promontory, situated on the western coast of Italy, with the dancing of Aurora which Homer places in the isle of Oea, where he says moreover, she saw the sun rise? *Odyss. l. 12, init.*

I know very well that Strabo, and those who defend the geography of the *Odyssée*, have endeavoured to reconcile, by the help of an ancient tradition, the contradictions I mention. But we see that they are every moment obliged to do violence to the most common notions of geography. They are obliged to overturn all the ideas we can have of it.

But, say they, the isle of the Phaeacians cannot be far from Ithaca, since Ulysses was only one day in going to it.

To draw any induction from this reasoning, we should be assured that Homer never loses probability on this subject. Yet we see that when Ulysses parts from Circe to go to Hell, the poet makes him cross the ocean in one day. With regard to his crossing from the isle of the Phaeacians to Ithaca, the marvellous which Homer has spread over all that recital, does not permit us to infer any thing as to the distance of places. He explains it clearly enough, since he says, that it was not with the vessels of the Phaeacians as with those of other nations. These ships, says he, have neither rudder nor pilot. They are endowed with knowledge. They of themselves know the way to all cities and to all countries; they very soon make the longest voyages. *Odyss. l. 8. v. 556. &c.*

I think this passage sufficiently destroys all the inductions which they pretend to draw from the proximity of the isle of Corfu to that of Ithaca. Besides, they do not find any conformity, any relation between the name of *Scherie*, which Homer gives to the isle of the Phaeacians, and that of *Corcyra* or *Corfu*. Let us now shew that the state in which the poet says the isle of Phaeacia was when Ulysses landed there, does not in any respect agree with the state the isle of Corfu must have been in the heroic ages.

Homer describes the isle of the Phaeacians as a country where there reigned at the time of the war of Troy an opulence, a luxury, and magnificence, certainly at that time unknown in Europe. I do not speak of the palace of Alcinous, although Homer seems to have exhausted himself to give us the highest idea of it. But I shall insist on the grandeur and decoration of the public squares, on that of their ports, on the beauty and number of their ships



This poet says that they had in the gardens of Alcinous pear-trees, pomegranates, figs, and olives. And there is even room to suspect that they had citron-trees <sup>f</sup>. As to pulse and roots, Homer enters into no detail on this article; only one may conjecture that they had many sorts <sup>g</sup>.

As to the distribution and arrangement of these gardens, we see that they had a sort of symmetry. They were divided into three parts: an orchard, containing the fruit-trees, a vineyard, and kitchen-garden. The trees do not seem to have been planted confusedly in the orchard. It appears on the contrary, that they then knew the art of planting by the line <sup>\*</sup>. The vineyard might likewise form an arbour. As to the kitchen-garden, Homer, as I imagine, gives us to understand, that the pulse and roots were ranged in different beds or compartiments <sup>†</sup>. They knew likewise how to conduct and distribute running waters in their gardens. Homer remarks, that in those of Alcinous they had

ships with which they were filled, in a word, of the experience of the Phaeacians in maritime affairs, and of the extent of their commerce. I shall support it by the ingenuity and address of the Phaeacians in making stuffs of a surprising fineness and beauty. I say that all this description could not characterise an isle in Europe in the heroic times; and to convince us of this, it is sufficient to cast our eyes on the state in which the arts, commerce, and navigation were at that time in Greece. I believe, on the contrary, that from thence we may trace the features of the Asiatics. 'Tis to these people we ought to ascribe all that Homer says of the Phaeacians; and I do not imagine he had any other views. The poet was too knowing to be ignorant, that, at the time of Ulysses, there was no isle in Greece in a state like that in which he has painted the isle of the Phaeacians. I do not think then that all these conjectures, to which they are obliged to have recourse to place this isle in Europe, can outdo the text of Homer, which to me appears plainly to prove that the poet designed some Greek colony transported into some one of the isles of Asia.

<sup>f</sup> Odyss. l. 7. v. 115. &c.

Μηλείαι ἀγλαόκαρποι, literally, fruits glittering to sight. Which one may well interpret oranges, or citrons.

<sup>g</sup> Ibid. v. 127. & 128.

<sup>\*</sup> I found my conjecture on this, because Homer uses the word ὄρχατος, rather than that of κήπος, in speaking of the gardens of Alcinous. Now, the word ὄρχατος comes from the root ὄρχος, which signifies plants ranged with order and symmetry.

<sup>†</sup> This, I think, is the induction we ought to infer from the terms κοσμηταὶ πρασιαὶ, which Homer uses: his scholiast explains them, and I think with great judgment, by ἐν τάξει διατεθῆμεναι, of plants ranged in order.

two fountains: one dividing itself into different canals, watered all the garden: the other running along the walls of the court, came out at the end of the palace, and supplied the whole city with water <sup>b</sup>.

Yet we must agree, that this description does not give us a grand idea of the taste which then reigned in gardens. Those of Alcinous, to speak properly, were only inclosures or orchards. We see nothing but fruit-trees or useful plants. No mention of elm, of beech, of plane, nor of any other trees, which in succeeding times have made the ornament and beauty of gardens. No covered walks, no groves, no terrasses. There is nothing said of flowers, still less of parterres. In a word, there is nothing in this description which gives any idea of what one may call the design and arrangement of a garden.

A more important point is to examine what knowledge they then had of the culture of trees. It is certain, that the art of planting them where they pleased, was very well known; but were they equally instructed in the art of managing them, to graft, for example? on this I have already had an opportunity of proposing some conjectures <sup>c</sup>. I maintain that this secret was not known till late: let us give the motives which made me embrace this opinion.

There is no mention made of grafting in the writings of Moses. Yet we see this legislator gives to the Israelites very useful precepts for the culture of fruit-trees. He orders them to pull off the fruit from the trees they have planted for the first three years. Those of the fourth must be consecrated to the Lord. They were not therefore permitted to eat them till the fifth year <sup>d</sup>. This precept was founded on the experience and knowledge which Moses had of the culture of fruit-trees. He was not ignorant that it weakens and exhausts a young tree when you suffer it to bring to maturity the fruit it produces at its first effort: thus in ordering the Israelites to pull off the fruit the first three years, the inten-

<sup>b</sup> Odyss. l. 7. v. 129. &c.

<sup>c</sup> See part 1. Book 2. chap. 1. art. 5.

<sup>d</sup> Levit. c. 19. v. 23. &c.



tion of Moses has been to teach his people the means of preserving their fruit-trees, and to make them bear good fruit.

After these details, I think we have a right to presume, that if Moses had known how to graft, he would not have neglected to have given some precept to the Hebrews.

We see likewise, that Homer says nothing of grafting, although he had occasion to speak of it many times.

One may add, that there is no mention of grafting in the poems of Hesiod that now remain \*; notwithstanding his first work, where he treats so particularly of all that concerns agriculture, is come to us so entire. But the induction which we might draw from the silence of Hesiod, will not be equally conclusive. First, it is certain, that all the writings of this poet are not come down to us <sup>1</sup>. And secondly, we find in Manilius a passage that gives us to understand, that Hesiod had spoke of grafting in some of his works <sup>m</sup>. I will not therefore avail myself of the writings of this poet to deny the antiquity of this discovery. But allowing, that this secret might be known to Hesiod, we can conclude nothing for the times of which I speak. This poet is much later than the epocha we are now employed about.

\* One might bring authority from ver. 731. *Oper. & Dier.* to maintain, that the art of grafting was not unknown to Hesiod. But besides that the most able critics look upon the common reading as vitious, and substitute ἐκτρέφασθαι for ἐντρέφασθαι which we read in the editions, it would be very singular to see the verb ἐντρέφειν become synonymous to ἐμψύειν; a term consecrated to signify the operation of grafting.

<sup>1</sup> See Fabric. bibli. Graec. t. 1. p. 379

<sup>m</sup> Atque arbuta vagis essent quod adultera pomis. l. 2. v. 22.

It is certain, that by this expression Manilius meant grafting. Pliny uses the same term in speaking of scions or grafts. Ob hoc insita & arborum quoque adulteria excogitata sunt. l. 17. sect. 1.

Yet there is in all this a considerable difficulty, in so far, that Manilius attributes in this whole passage many things to Hesiod, which are not found in his works, or even what is contrary to what we find there. Scaliger thinks, that Manilius has confounded the poems which pass for Orpheus's with those of Hesiod. He even brings on this occasion nine verses of the beginning of one of these pretended poems which bears the same title with that of Hesiod called ἔργα ἃ ἡμέραι. In Manil. p. 102. & 103. We should remember, that all the poems attributed to Orpheus are supposititious, so that authority concludes nothing for the antiquity of grafts.

This is all that the history of Asia affords for this time with respect to agriculture.

As to the Egyptians, the reign of Sesostris ought to be looked upon as the most remarkable epocha for the attention of these people to try every thing that could contribute to increase the value of their grounds.

The reader will not have forgot, that from the first ages the Egyptian monarchs applied themselves to draw great advantages from the overflowings of the Nile. They had made and preserved divers canals to receive and disperse at pleasure the waters of the river <sup>a</sup>. Sesostris augmented the number considerably <sup>b</sup>. We must attribute to these works, the prodigious fertility which historians say Egypt anciently enjoyed. By means of multiplied canals, they carried the water over all the lands. Each inhabitant could procure it easily. They had only the trouble of opening a trench each time they wanted water. Thus Egypt found itself watered in the parts the most remote from the Nile <sup>c</sup>.

The extreme fertility which this country anciently enjoyed, is so generally attested, that we ought to put this fact among those which cannot be doubted. In the most remote ages Egypt was able to give to other people a certain assistance in times of scarcity <sup>d</sup>. Under the Roman Emperors they called it the granary of Italy <sup>e</sup>. It was the same under the Greek Emperors. They drew from Alexandria all the corn they consumed at Constantinople <sup>f</sup>. Yet these facts so certain and well attested, however, form a problem which it is not easy to resolve.

Egypt is a country of small extent. All the grounds could never produce the same quantity, even in the best of times: lastly, they must always have left in the country the quantity of corn necessary to support the inhabitants; and that quantity must formerly have been very considerable, considering that Egypt was then extraordinarily peopled. How

<sup>a</sup> See part 1. book 2. chap. 1.

<sup>b</sup> Herod. l. 2. n. 108. & 109.; Diod. l. 1. p. 66.; Strabo, l. 17. p. 1156. & 1157.

<sup>c</sup> Herod. l. 2. n. 109. & 108. <sup>d</sup> See part 1. book 2. chap. 1.

<sup>e</sup> Biblioth. anc. & mod. t. 4. p. 123. <sup>f</sup> Ibid t. 11. p. 215.



can we persuade ourselves after these reflections, that such a country could ever furnish such immense provisions as the ancients mention? The question becomes yet more difficult to decide, when we compare the recitals of different authors as well ancient as modern, and when we form, from their recitals, an exact idea of the fertility of Egypt.

Pliny compares the soil of Egypt to that of the Leontines, looked upon formerly as one of the most fertile districts of Sicily. He pretends, that in that country the bushel of corn gave an hundred for one<sup>†</sup>. But if we give credit to the testimony of Cicero, nothing is more exaggerated than this fact advanced by Pliny. Cicero says in plain terms, that in the territory of the Leontines, the highest produce was ten for one, and that very seldom. Commonly it was not above eight, and they found themselves then well done to<sup>‡</sup>. The orator from whom we have this account ought to have been well instructed. He had been questor in Sicily; besides, he pleaded before the Roman people the cause of the inhabitants of that province against Verres. Thus, on comparing, after Pliny, the fertility of Egypt to the territory of the Leontines, we shall find, that in Egypt the bushel did not give above ten for one.

This estimation agrees exactly with that which Granger gives us of the fertility of this country, author of an account of Egypt, which, on many accounts, is much to be esteemed\*. He says, that the lands the nearest to the Nile, those on which, at the time of the inundation, the water rests forty days, do not give, in the best years, above ten for one; and with respect to lands where the water does not remain above five days, it is much if they get four for one<sup>x</sup>.

The same traveller pretends, that they sow now as much land in Egypt, as they sowed anciently; leaving none

<sup>†</sup> L. 18. sect. 21. p. 111.    <sup>‡</sup> In Verrem, actio 2. l. 3. n. 47. t. 4. p. 304.

\* The greatest part of this work has been reviewed and corrected by M. Pignon, who had been seventeen years consul at Cairo.

I had this from himself.

<sup>x</sup> Voyage en Egypte par le Sieur Granger, p. 8. & 9. See also Maillet, descript, de l'Egypte, lettr. 9. p. 4. & 5.

unbroke up that will bear corn. Yet, adds he, if the inhabitants, which at present are few in comparison of what they were said to be formerly, eat commonly wheat bread; Egypt, with its great crops, would scarce produce what would support them<sup>y</sup>.

He observes, lastly, that the soil of Egypt is so barren, that it is very uncommon to meet with plants or shrubs: the earth is clayey and of a dark colour. It is nothing, to speak properly, but a composition of salt and dust<sup>z</sup>. The seeds and the trees which they plant, do not increase or shoot but by the force of water. It is for this reason, that in Egypt they have neither wood for firing nor building<sup>a</sup>. With respect to the overflowings of the Nile, it is, says he, an error, to believe that the waters of that river, at the time of its waxing, bring with it a mud that enriches the lands. When the Nile is at eighteen feet high, it comes to the reddish earth of which its borders are composed, in the higher-Egypt. The water being rapid, molders and carries away its borders, and stains it of a colour which appears about the consistence of milk<sup>b</sup>; but it brings no mud properly so called<sup>\*</sup>.

Granger concludes from all these observations, that Egypt, so far from having supplied other countries with provisions, was not in a state to find a maintenance for the infinite number of inhabitants with which they pretend it was formerly peopled<sup>c</sup>.

The other travellers do not speak of Egypt in a way so disadvantageous as Granger. They agree, it is true, as to the aridity of this country<sup>d</sup>; but they do not look upon this defect as an obstacle to its fruitfulness. Among many travellers, whose evidence I might bring, I shall content

<sup>y</sup> Granger, p. 4. 5. 11.

<sup>z</sup> Ibid. p. 12. & 26.

<sup>a</sup> Ibid. p. 12. & 13.

<sup>b</sup> Ibid. p. 20.

<sup>\*</sup> He told me, that he was certain, from repeated experiments, that there was nineteen times less mud in the waters of the Nile than in those of the Seine. See also Shaw's travels, t. 2. p. 188.

<sup>c</sup> Granger, p. 4.

<sup>d</sup> Pietro d'ella Valle, lettr. 11. p. 218. Maillet, descript. de l'Egypte, lettr. 9. p. 3.



myself with that of Maillet, who, by the long stay he made in Egypt, could acquire an exact knowledge of that country. Egypt, says he, to speak properly, is nothing but an huge and solid rock. As soon as you dig a little in the ground, or you rake in the sand, you meet with the rock, except in the Delta, which, he thinks, has been formed by the mud of the Nile<sup>e</sup>. Yet Maillet will have it, that you now find a soil in Egypt, which, if cultivated, would produce abundantly<sup>\*</sup>: for he is far from thinking, that they sow at present the same quantity of land as formerly. Indeed they cultivate as much as the real state of Egypt will permit; but that space is not nearly so extensive as formerly. The bad policy of the Turks is the cause of this difference. The government has thought proper to forbid the exportation of corn; therefore they have sowed no more than the fields bordering on the Nile. For the same reason they have given over watching and maintaining the banks and the canals with the same attention they did formerly<sup>f</sup>. It is not therefore astonishing, that Egypt does not now produce the same quantity of corn it did in ancient times.

This account is very opposite to that of M. Granger. The only fact in which these two travellers agree, is, that at this time there is no corn exported from Egypt; but for what reasons, that is what they do not agree in. Let us endeavour to propose some conjectures on a question at this time so difficult to determine.

It is very certain, that, for want of care and attention,

<sup>e</sup> Descript. de l'Egypte, lettr. 1. p. 18. & 19.

<sup>\*</sup> Maillet does not seem to have much agreement with himself. In his ninth letter, p. 4. & 5. he says, that, at present, in Egypt, the lands produce commonly ten for one: and he adds afterwards, that a grain of wheat commonly produces from twenty-five to thirty ears. This second fact contradicts the former, and the contradiction is manifest. There is certainly an error in one or other of the calculations. For, according to the last account, the lands in Egypt should produce at this time at least three hundred for one. But as M. Maillet did not digest and publish his memoirs, we do not know whether to impute to him or his editor, the contradictions we so frequently meet with in this work.

<sup>f</sup> Maillet, lettr. 1. p. 37. & 38. lettr. 9. p. 2.

a great part of the canals, which served heretofore to fertilize Egypt, are filled up. The Romans afterwards knew well their importance. They were very attentive to have them cleansed<sup>g</sup>. The Mahometans have neglected to keep up these works. We ought not therefore to say, that they sow as much now as they sowed formerly, since the Nile no longer waters the same quantity. But allowing a very great difference between the actual state of Egypt and its ancient state, I am always surpris'd that that country could ever be said to have furnished such immense quantities of provisions as historians mention. We cannot justify their accounts, but by comparing the ancient produce of Egypt with that of certain districts whose fertility is so very extraordinary. Herodotus affirms, that in Babylon, the ground produced two, and sometimes three hundred to one<sup>h</sup>. They bring every year a prodigious quantity of corn from Chili, a country extremely barren, and where we do not see lands in tillage but only in some valleys. But these lands produce sixty, eighty, and an hundred for one<sup>i</sup>, while our best lands in France do not produce above ten or twelve to one at most<sup>k</sup>. Thus the crop which they have in Chili from one acre, is at least equal to what we have from ten in our provinces the most fruitful in corn. The fertility is still greater in some provinces of Peru. There they gather from four to five hundred for one of all sorts of grain<sup>l</sup>.

But we are convinced, by many experiments, that one may make the earth bear and yield much more than it commonly does. This secret depends on the manner of cultivation and tillage<sup>m</sup>. Can we not then attribute this prodigious fecundity, which the ancients say Egypt enjoyed,

<sup>g</sup> See Sueton. in August. c. 18. ; Aurel. Victor. epitom. c. 1.

<sup>h</sup> L. 1. n. 193. This is nearly the calculation of Theophrastus. Hist. plant. 1. 8. c. 7. p. 162.

<sup>i</sup> Voyage de Frezier, p. 70. & 106.

<sup>k</sup> Journ. des scav. Aout, 1750. p. 538.

<sup>l</sup> Voyage de Frezier, p. 137. ; Hist. des Incas, t. 2. p. 335. ; Conqu. du Perou, t. 1. p. 46. & 47.

<sup>m</sup> Mem. de Trev. Juillet 1750. p. 1565. & 1566.



to some particular method practised formerly by the Egyptians? The land of Egypt being no longer cultivated, and that for a long time with the same care and industry it was in former ages, its fertility cannot have been the same. Lastly, if we believe a celebrated naturalist, the earth is exhausted by length of time<sup>n</sup>. It should not then be surprising, that Egypt, which was one of the first inhabited countries, should now be less fertile than heretofore.

Besides, it is not the only country which has experienced such an alteration. If we believe Pliny, formerly in Lybia, the bushel of corn yielded one hundred and fifty for one<sup>o</sup>. It must be, that things are strangely changed since the time of this naturalist. At this time, according to the report of Shaw, a most exact relater, the bushel of wheat does not produce in that country above eight or twelve for one. He was told, indeed, that certain districts produce much more; but he assures us, at the same time, that the crop never comes to an hundred fold<sup>p</sup>. Pliny adds, that they had sent to Augustus a stalk of wheat which came from Lybia, which bore more than four hundred blades, all coming from one grain, and fixed to the same root. They shewed one, almost the same, to Nero<sup>q</sup>. Shaw says also, that he has seen at Algier a stalk of wheat which contained fourscore ears. He speaks of another which had produced one hundred and twenty<sup>r</sup>. But we must observe, that there is great difference as to the produce, between one seed that grows alone, and those which come up all at once in a sown field. Experience teaches us, that one seed alone, grows and produces an hundred times more<sup>s</sup> than those that are put together in a great quantity in the same place. They then starve each other. The ears of which these authors speak, had probably grown in

<sup>n</sup> Buffon, hist. nat. t. i. p. 243.

<sup>o</sup> L. 18. sect. 21. p. 111.

<sup>p</sup> Shaw's travels, t. i. p. 283. & 286.

<sup>q</sup> Plin. l. 18. sect. 21. p. 111.

<sup>r</sup> Shaw's travels, t. i. p. 283. & 286.

<sup>s</sup> Journ. des scav. ann. 1681. Janv. p. 11. ann. 1750. Aout. p. 538.; Spectacle de la nature, t. 2. p. 292.; Traité de la cult. des terres, par M. Duhamel, t. 2. p. 20.

some place where they were removed on all sides from other seeds or plants. But as this matter has still great difficulties, I shall not undertake to pronounce on all these questions. I have laid open the facts as I found them in different authors. I leave the decision to the judgment of the readers\*.

## C H A P. II.

*Of Cloathing.*

OF all the arts of which we have to speak in this second part, there are none which appear to have been more or better cultivated than those which concern cloathing. We see taste and magnificence shine equally in the description Moses gives of the habits of the high priest and the vails of the tabernacle. The tissue of all these works was of linen, goats hair, of wool, and of byssus<sup>z</sup>. The richest colours, gold, embroidery, and precious stones, united to embellish it. But let us enter on each particular.

## A R T I C L E I.

*Of the colours employed in dying of stuffs.*

THE art of dying must have made a very rapid progress in the earliest times in some countries. Moses speaks of stuffs dyed sky-blue, purple, and double scarlet; he also speaks of the skins of sheep dyed orange and violet<sup>u</sup>. These

\* I have often had occasion to discourse of the actual fertility of Egypt with a person of credit, who had resided many years, either at Alexandria, or Cairo: he does not think that Egypt produces near so much as it is said to have done formerly; the lands remaining uncultivated in the greatest part of the Upper Egypt, for want of inhabitants.

<sup>z</sup> On the byssus, see part 1. book 2. chap. 2.

<sup>u</sup> See Exod. c. 25. v. 4. & 5.



different colours require very elaborate preparations. My design is not to enter into a particular detail of all the colours which may have been then in use, nor to examine the different operations they used in dying the stuffs. I shall only speak of those which deserve a particular attention. I begin with purple, that colour so valuable, and so famous with the ancients.

It was to chance alone, according to the tradition of all antiquity, that they owed the discovery of this beautiful colour. A shepherd's dog, pressed by hunger, having broken a shell on the sea-shore, the blood which ran from it stained the dog's mouth such a colour as struck the admiration of those that saw it. They endeavoured to apply it to stuffs, and succeeded\*. There is some variety among the authors in the circumstances of this event. Some place this discovery in the reign of Phoenix second King of Tyre<sup>y</sup>, that is to say, a little more than 500 years before Christ\*. Others, at the time that Minos the First reigned in Crete<sup>z</sup>, about 1439 years before the Christian æra. But the greatest number agree to give the honour to the Tyrian Hercules of the invention of dying stuffs in purple. He gave his first trials to the King of Phœnicia. That prince, they say, was so jealous of the beauty of this new colour, that he forbade the use of it to all his subjects; reserving it for Kings, and the presumptive heir of the crown<sup>a</sup>.

Some authors bring love into the discovery of purple. Hercules, say they, being taken with the charms of a nymph called *Tyros*; his dog one day finding on the sea-shore a shell, broke it, and stained his mouth with purple. The nymph observed it: charmed at sight with the beauty of the colour, she declared to her lover, that she would see

\* Cassiodor. variar. l. 1. ep. 2. p. 4.; Achill. Tat. de Clitophon. & Leucipp. amor. l. 2. p. 87.; Palaeph. in chron. Paschal. p. 43. C.

<sup>y</sup> Palaeph. loco cit.; Cedren. p. 18. D.

\* Phoenix was son of Agenor, and brother of Cadmus. Apollodor. l. 3. 129. Cadmus came into Greece 1519 years before Christ.

<sup>z</sup> Suid. in voce *Πρακλῆς*, t. 2. p. 73.

<sup>a</sup> Autor. supra, laudati.

him no more till he brought her a suit dyed the same colour. Hercules thought of a way to satisfy his mistress. He got together a great number of shells, and succeeded to stain a robe the colour the nymph had demanded <sup>b</sup>.

Such are the different traditions the ancients give out of the origin of purple dye. We perceive very plainly that all these recitals are accompanied with fabulous episodes. I have nevertheless thought proper to relate them, as they may serve to fix the epoch of this discovery \*. I think we may place it about the times I have indicated. We see that Moses made a great use of purple stuffs †, as well for the habits of the high priest, as for the ornaments of the tabernacle. This is a proof that then the art of preparing purple was not absolutely new; for there must have been some time to bring this colour to its degree of perfection. They could not attain to that but after many essays and trials.

The testimony of Homer serves still more to confirm the antiquity of this discovery. This great poet, an exact observer of *customs*, gives purple ornaments to heroes who lived about the ages <sup>c</sup> where I place the discovery of this dye. We might quote more testimonies <sup>d</sup>.

It is more easy to fix the epoch when they began first to

<sup>b</sup> Pollux, l. 7. c. 4. p. 30.

Bochart. Hieroz. part. 2. l. 5. c. 11. explains very well this little novel. He shews that in the Syriac the same word signifies a dog and a dyer, from whence the Greeks took occasion to say that it was a dog who had discovered purple.

<sup>c</sup> Palaephatus, & Cedren, *locis citat.* were very ill informed when they said, that, before the discovery of purple, they were ignorant of dying. The contrary is proved by the Bible. See Gen. chap. 38. v. 27.

† It is not quite certain, according to M. Huet, that the word ארגמן *Argaman*, of the Hebrew text which all the interpreters translate by *purpura*, means in reality that colour. This bishop observes, that *Argaman* comes from ארג *Arag*, *textuit*, and from מנח *Manah*, *præparavit*. It should follow, according to his opinion, that *Argaman* should signify rather a sort of work and a tissue, not a colour. Rec. de Tilladet, t. 2. dissert. 22. p. 255. & 256.

But this reasoning ought not to destroy the common translation, because the word *Argaman* is used in the Bible, as the word *purpura* with profane writers, to design the robes of Kings.

<sup>c</sup> Iliad. l. 6. v. 219.

<sup>d</sup> See Appollon. Rhod. Argon l. 1. v. 728. l. 4. v. 421. & 425.



know purple, than to give a clear and precise idea of the procedure of the ancients to give to their stuffs this so much sought after colour. This is all that remains that one can depend upon on this subject.

The purple dye was drawn from many sorts of sea-shells\*. The best were found near the isle where new Tyre was built<sup>c</sup>. They fished for them in other places of the Mediterranean. The coasts of Africa were famous for the purple of Getulia<sup>f</sup>. The coasts of Europe supplied the purple of Laconia which they had in great esteem<sup>g</sup>. Pliny ranges in two classes all the sorts of testaceous fish which served to dye purple; the buccinums, or trumpet-fish, and the shells called *purples*, from the name of the colour they furnish<sup>h</sup>. These last were particularly sought after. They found, by the account of the ancients, in the throat of the fish, a white vein which contained a dark red colour<sup>i</sup>. This was the ground of purple dye. All the rest of the shell was useless<sup>k</sup>. The essential point was to take these fishes alive; for the moment of their death they lost this precious liquor<sup>l</sup>. They collected it carefully. After having left it to macerate in salt for three days, they mixed it with a certain quantity of water. They boiled the whole in a leaden pot over a slow and moderate fire for ten days. They afterwards put in the wool, being well washed, cleansed, and properly prepared<sup>m</sup>. At first they left it to soak for five hours; they then took it out, carded it, and put it again into the boil-

\* 'Tis for this reason that the Latins called purple habits *conchiliatæ vestes*.

<sup>c</sup> Plin. l. 9. sect. 60. p. 524.

<sup>f</sup> Ibid. l. 5. sect. 1. p. 242. l. 9. sect. 60. p. 524.

<sup>g</sup> Ibid. sect. 60. p. 524. 525.; Pausan. l. 3. c. 21. p. 294. l. 10. c. 37. p. 893.; Horat. carmin. l. 2. od. 18. v. 8.

<sup>h</sup> l. 9. sect. 61. p. 525.

<sup>i</sup> Arist. hist. animal. l. 5. c. 15. p. 844.; Plin. l. 9. sect. 60. p. 524.

<sup>k</sup> Aristotle and Pliny, *locis cit.*; Vitruv. l. 7. c. 13.

Aristotle and Pliny observe, that it was only in the large shells that they took the vein. As to the small ones, they crushed them with millstones. This purple was not in such esteem as the former.

<sup>l</sup> Ibid. *locis cit.*; Ælian. de animal. l. 7. c. 1.

M. de Jussieu, in a memoir which we shall speak of below; observes the same thing with respect to the fish that furnishes the purple of Panama.

<sup>m</sup> Cicero philos. frag. t. 3. p. 424.

er till all the dye was drank up and consumed<sup>n</sup>. They were obliged to mix different sorts of shells to make purple<sup>n</sup>. They added to it various sorts of ingredients, as nitre, human urine, water, salt, and *fucus*, a sea-plant, of which the best sort is found in abundance on the rocks of the isle of Crete<sup>r</sup>.

The Tyrians, by the confession of all antiquity, succeeded the best in dying stuffs purple. Their operation differed a little from what I have related above. They used nothing to make their colour, but purple shells taken out at sea. They made a bath of the liquor they drew from these fishes. They steeped their wool in this a certain time. They afterwards took it out, and put it into another boiler where there was nothing but buccina or trumpet-fish<sup>s</sup>. This is all that the ancients tell us of the practice of the Tyrians. In Solomon's song there is also mentioned a royal purple which the dyers dipt in the canals, after having tied it in small bundles<sup>r</sup>. We shall give a glimpse in these few words, of some particuliar preparations, an exact account of which we cannot obtain<sup>\*</sup>.

We know that the purple stuffs the most esteemed were those which were twice dyed. This preparation was very ancient. The purple stuffs which Moses used for the worship of the Almighty, had been dyed twice<sup>r</sup>. It was thus that they made this colour so valuable, that it vied even

<sup>n</sup> Plin. l. 9. sect. 62. p. 526.      <sup>n</sup> Id. ibid.

<sup>r</sup> Ibid. *locis cit.* p. 526. sect. 61. p. 527. l. 13. sect. 48. p. 700. l. 26. sect. 66. l. 21. sect. 46. p. 565. l. 32. sect. 22. p. 581.; Plut. t. 2. p. 433. B.; Theophr. hist. plant. l. 4. c. 7. p. 82. See also Turneb. adversar. l. 9. c. 5.

<sup>s</sup> Plin. l. 9. sect. 62. p. 526.

<sup>r</sup> Chap. 7. v. 5.

<sup>\*</sup> I shall only offer some conjectures.

The best way of washing wools, after they are dyed, is to plunge them in running water. Probably the sacred author had this practice in view, when he said they should dip the royal purple in canals. As to what he adds, after being tied in little bundles, or packets, one may conclude from this circumstance, that instead of making the cloth with white wool, and afterwards putting the whole piece into the dye, as we do now, they then followed another method. They began by dying the wool in cream, and made it afterwards into purple stuffs.

<sup>r</sup> Exod. ch. 25. v. 4.



with gold itself<sup>1</sup>. One ought not to be surpris'd at it. The vein of the shell-fish from whence they got the purple, only furnish'd a very small quantity of liquor. Besides, it must be collect'd before the death of the fish, without reckoning the other preparations which required much time and precaution \*, and without mentioning the risk they ran in fishing for these shells at the bottom of the sea<sup>u</sup>. I shall confine myself to this short exposition of the preparations the ancients made use of to dye stuffs purple. Those who desire a more particular account, may consult the modern authors who have apply'd themselves to find out, in the writings of the ancients, all the facts that have any relation to this matter x.

We find in Aristotle and Pliny some details of the preparation of purple; but they are not sufficiently circumstantial. As Aristotle and Pliny writ in the times when this practice was very common, what they have said was then sufficient to give an idea of it; but it is too little to clear it up to us now, as they have left off the use of this dye for many ages. Accordingly, in spite of all the writings which have appear'd on the subject of this operation, it has been long doubted whether we are perfectly instructed in the species of shell-fishes from which the ancients drew purple y; they have even thought this secret absolutely lost; but yet it is certain it has been found again.

They have discover'd, as well on the coasts of England z, as on those of Poitou<sup>a</sup> and Provence<sup>b</sup>, shells which have all the characters by which the ancients describe the fishes which yielded the purple. We see many in the cabinets

<sup>1</sup> See Arist. hist. animal. l. 5. c. 15. p. 844. A.; Plin. l. 9. sect. 63. p. 527. Athen. l. 12. p. 526. D.

\* It is very probable that the ancients had some secret to keep in solution in a proper liquor, the blood of purple fishes till they wanted to use it. See Acad. des scienc. for 1736, hist. p. 8.

<sup>u</sup> Plin. l. 22. sect. 3.

x See Fabius Columna, and his commentator Daniel Major.

y Acad. des scienc. an. 1711. mem. p. 166. & 167.

z Journal des scav. Aout 1686. p. 195. &c.

a Acad. des scienc. ann. 1711. mem. p. 168. & 179.

b Ibid. ann. 1736. mem. p. 49.

of the curious. And if they use this no more, 'tis because they have found a way of making a dye more beautiful, and at less expence, with cochineal. They have even discovered a new purple, which, according to all appearances, was unknown to the ancients, although of the same species with theirs <sup>c</sup>.

But further, though the secret of dying purple should be lost, I do not see any reason to regret the loss of it much. It appears, from the testimony of all ancient writers <sup>d</sup>, confirmed by modern discoveries <sup>e</sup>, that stuffs dyed in this colour had a strong and disagreeable smell. Besides, to judge of the effect of purple by the descriptions we now have of it, that colour could not be very agreeable to the eye. The scarlet, such as we have now, is much above it. A few reflections will be sufficient to convince us.

They distinguish many sorts of purple colours. One was extremely deep, of a red drawing to a violet <sup>f</sup>. The other was more faint, approaching to our scarlet; this was the least esteemed <sup>g</sup>. Lastly, that which they valued the most, was of a deep red, of the colour of bullocks blood <sup>h</sup>. 'Tis in allusion to this colour, that Homer and Virgil give to blood the epithet of *purpled* <sup>i</sup>. It was this dismal colour they principally sought for in these sorts of stuffs <sup>k</sup>. It was

<sup>c</sup> Acad. des scien. ann. 1711. mem. p. 169.

<sup>d</sup> Martial. l. 1. epigram. 50. v. 32. l. 4. epigram. 4. v. 6. l. 9. epigram. 63. See Turneb. adversar. l. 9. c. 5.

<sup>e</sup> Journ. des scav. Aout 1686. p. 197.; Acad. des scien. ann. 1711. mem. p. 191. ann. 1736. mem. p. 55.

<sup>f</sup> *Nigrantis rosae colore subluces*. Plin. l. 9. sect. 50. p. 521.

M. Huet, in the collection of Tilladet, l. 2. p. 252. pretends on the contrary, that this species of purple approached to the colour we call *dry rose*, like to that which the leaves of the vines take when they are ready to fall. He adds, 'tis very nearly the same we see in the interior border of the rainbow.

I think M. Huet is mistaken; but admitting his explication, this purple would only be more disagreeable. This yellowish colour which he means, is never pleasant to the sight.

<sup>g</sup> *Rubens color, nigrante deterior*. Plin. sect. 62. p. 526.

<sup>h</sup> *Laus ei summa in colore sanguinis concreti*. Plin. ibid.

We observe in general, that the ancients only esteemed dark colours. Anacreon gives the preference to roses which draw towards black.

<sup>i</sup> Iliad. l. 17. v. 360. & 361.; Æneid. l. 9. v. 349.

<sup>k</sup> This is the idea Cassiodorus gives us of it; he defines purple, *obscuritas rubens, nigredo sanguinea*. Varior. l. 1. ep. 2. p. 3.



in this that those of Tyre excelled all others. I leave it to be judged whether such a colour ought to produce a very agreeable effect on the eye.

They had yet a fourth sort of purple very different from that I have spoke of. The colour was whitish<sup>1</sup>; but as this species of dye does not appear to have been known but in ages greatly posterior to those we are now upon, I do not think it necessary to speak of it\*.

The ancients had so great an esteem for purple colour, that it was specially consecrated to the service of the Deity. I have already had an opportunity of observing that Moses often used stuffs of this colour for the works of the tabernacle, and for the habits of the high priest. The Babylonians gave purple habits to their idols<sup>m</sup>. It was the same with most of the other people of antiquity. The Pagans were even persuaded, that the purple dye had a particular virtue, and was capable of appeasing the wrath of the gods<sup>n</sup>.

Purple was also the distinguishing mark of the greatest dignities. This custom was established from the earliest times. We have seen that the King of Phœnicia, to whom tradition says they presented the first essays of this colour, had it reserved for the sovereign<sup>o</sup>. Among the presents which the Israelites made to Gideon, the scripture makes mention of purple habits found among the spoils of the Kings of Midian<sup>p</sup>. Homer gives us plainly to understand that it only belonged to princes to wear that colour<sup>q</sup>. We may remark in reality that they never used it but for this purpose; a custom observed by all the nations of antiquity.

I shall finish what I have to say of the purple, by examining the opinion of a most able naturalist on the sorts of stuffs proper to receive this dye. He proposed his sentiment on account of the American purple which is made at Pana-

<sup>1</sup> Plut. in Alex. p. 686. D.

\* Of this white purple, see La traduct. de Vitruv. par Perrault, l. 7. c. 13. p. 249. note 3.

<sup>m</sup> Jerem. c. 10. v. 9., Baruch, c. 6. v. 12. & 71.

<sup>n</sup> Diis advocatur placandis. Plin. l. 9. sect. 60. p. 525.; Cicero. epist. ad Attic. l. 2. epist. 9. t. 8. p. 115.

<sup>o</sup> Art. 1. chap. 2.

<sup>p</sup> Judg. c. 8. v. 26.

<sup>q</sup> Iliad. l. 4. v. 141.

ma<sup>r</sup>. They get it from a species of Persian conch, called, from the place where it is made, *purple of Panama*. The colour which this shell affords will not take but on cotton, and other stuffs obtained from vegetables. The author of whom I speak, in giving an account of this fact, adds, that there is nothing but the cochineal unknown to the ancients, which can stain red, stuffs made of animal substances. He concludes with this observation, that formerly purple stuffs could only be of cotton<sup>r</sup>.

I do not think I say too much, in asserting that this sentiment is plainly contradicted by the unanimous testimony of antiquity. We see by all the authors who have had occasion to speak of purple, that animal substances, and particularly wool, were susceptible of this colour<sup>r</sup>. The very manner tradition reports the discovery of this colour, is a proof of what I advance. The first time they are said to have seen the effect it had on the mouth of a dog: it was with wool that the shepherd wiped the mouth of that animal which he thought bloody. Hercules took that wool, and carried it to the King of Phœnicia<sup>u</sup>. If the American purple will not take but on cotton, it is because the fishes which supply it, have different properties from those purple shells which the ancients used. We may add, that probably they do not use the same preparations for this dye as they did formerly.

The discussion I have just been upon leads us very na-

<sup>r</sup> See les mem. de Trev. September 1703. p. 1689. Sept. 1704. p. 1773.

<sup>r</sup> Mem: de M. de Jussieu the elder, read at the academy of sciences, November 14. 1726; taken from the Mercury of December 1736. p. 2834.

<sup>r</sup> See Exod. c. 25. v. 5. c. 35. v. 6. & 23.; Horat. carm. l. 2. ode 16. v. 35. &c. Epod. od. 12. v. 21.; Alian. hist. animal. l. 16. c. 1.; Ovid art. amet. l. 1. v. 251. l. 3. v. 170.; Seneca. Hercul. Oet. act. 2.; Cicero philosophic. fragm. t. 3. p. 421.; Plin. l. 9. sect. 62. p. 526. & 527.

This author even speaks of living sheep, which they had dyed purple, l. 8. sect. 74. p. 477.

<sup>u</sup> Palaeplat. Achil. Tatius, *locis cit.*

If we believe Pliay, l. 7. p. 414. & Hygin. fab. 274. the art of dying wool in general was known very late, since they give the honour of this discovery to the inhabitants of the city of Sardis, built after the taking of Troy. Strabo, l. 13. p. 925.

But this fact advanced by these two authors, is denied by all antiquity.



turally to inquire into the means the ancients used to make their dyes solid and lasting. We see that they used a good deal of salt in these sorts of operations \*, and they must really do it; but all sorts of salt except the crystal of tartar or tartar of vitriol, will dissolve in water, or calcine in the sun †. We see also that the ancients on many occasions made their dyes with the blood of animals ‡. We know that all dyes into which they put the blood of animals, without mixing mineral acids, evaporate, change, and become black with time. It is only by the help of chymistry that we can procure such species of salts as I have now described, and the acid minerals, so necessary in dying. But chymical preparations were unknown to the ancients: we are therefore led to believe that they could only have very bad dyes.

Yet we never find the ancients complain that the colour of their stuffs was subject to alter or change †. They must then have made up for these chymical operations by particular methods. They must have had some preparations, some secrets we are ignorant of. Plutarch tells us in the life of Alexander, that the conqueror found among the treasures of the Kings of Persia, a prodigious quantity of purple stuffs, which for one hundred and eighty years which they had been kept, preserved all their lustre and all their primitive freshness, because, says he, they had been prepared with honey ‡. A kind of preparation absolutely unknown to us.

We find in Herodotus, that certain people on the borders of the Caspian sea, imprinted on their stuffs designs either of animals, or flowers, whose colour never changed, and lasted as long even as the wool of which their cloaths were made. They used for this business the leaves of certain trees which they bruised and diluted in water †. We know that the savages of Chili make with certain plants, dyes

\* See Plin. l. 9. sect. 62.; Plut. t. 2. p. 433. B.

† Acad. des sciences. ann. 1740. H. p. 60. ann. 1741. mem. p. 42. 70. & 71.

‡ See P. Calmet, t. 2. p. 348.

§ Vitruv. l. 7. c. 13. & Lucret. l. 6. v. 1072. &c.

¶ Plut. p. 686. D.      \* L. 1. n. 203.

which

which will bear washing with soap many times without losing their colour <sup>d</sup>. Lastly, Pliny describes the way which the Egyptians made painted linen, which deserves some attention. They began, says he, by laying on certain drugs on white linen, and then put it into the vat full of boiling dye. After having left it there some time, they drew it out painted of divers colours. Pliny observes that they had only one sort of liquor in the vat. The different colours painted on the cloth, could not be produced but by diverse preparations laid upon it. These colours were so adhesive, that it was not possible to change them, whatever washings they afterwards gave to the cloth. Pliny even adds, that these sorts of stuffs were strengthened by it, and were better for being dyed <sup>e</sup>. We may conclude from all these facts, that, in all probability, the ancients had preparations by which they supplied the succours we draw from chymistry, to fix the colour of our stuffs. And if the particulars of these operations are at present unknown, it is because new discoveries infinitely more sure and more commodious have made these ancient methods insensibly disappear. I have already made this observation <sup>f</sup>.

There should remain one question more to propose with relation to a red colour different from purple, which is so often mentioned in Exodus <sup>g</sup>. Opinions are divided as well as to the sense of the Hebrew word <sup>h</sup>, as on that of *coccus* by which the Septuagint and the Vulgate have translated it. Some think it is crimson, others, that it is scarlet. By adopting the translation of the Septuagint and the Vulgate, which I believe right, it is easy to shew that the colour called *coccus* by the Greeks and Romans, is scarlet, very different from crimson. The examination of the materials proper for one and the other colour, ought to decide the question.

<sup>d</sup> Voyage de Frezier, p. 72.

<sup>e</sup> L. 35. sect. 42. p. 709. All this preparation is described by Pliny in a very embarrassed and obscure manner, according to the custom of this author: I have endeavoured to make it as clear as possible, but I would not warrant the exactness, and less still the reality of it.

<sup>f</sup> B. 2. c. 2. art. 1.    <sup>g</sup> C. 25. v. 4.    <sup>h</sup> חֹלֶעֶת שָׁנִי, *Tolaat-Scheni*.



Crimson, properly so called, is of a deep red, and is made with cochineal, an ingredient absolutely unknown to antiquity. Scarlet is of a lively and bright red. To make this dye, they use a sort of little reddish grains which they gather from a sort of French or holm oak, a dwarf-tree common in Palestine, in the isle of Crete, and in many other countries <sup>b</sup>. They find on the leaves and on the bark of this shrub, little nuts or bladders about the size of a juniper-berry. These excrescences are occasioned by the eating of little worms <sup>i</sup>. The Arabians have given them the name of *kermes*; we call them the *scarlet grain*, or *vermilion* <sup>k</sup>, because they use it to make the most beautiful and lively red. Let us apply these principles to the question in hand.

It is certain, that the ancients had a red colour much esteemed, called *coccus*, which they distinguished from purple <sup>l</sup>. The *coccus* differed from the purple, as well by its preparation, as by its shade and the effect of the colour. Purple, as we have seen, was of a deep red approaching to coagulated blood, and was dyed with the liquor of certain shell-fishes. The *coccus*, on the contrary, was of a gay red, lively, bright, approaching to the colour of fire <sup>m</sup>. This dye was made with a sort of little grains which they gathered on the holm oak <sup>n</sup>. The ancients even called these grains, which at present we call *scarlet grain*, *fruits of the holm oak* <sup>o</sup>. Neither were they ignorant, that these pretended fruits inclosed worms <sup>p</sup>. After this exposition, it clear-

<sup>b</sup> Voyage de la Terre-Sainte du P. Roger, recollet. l. 1. c. 2.; Voyage de Monconys, part 1. p. 179.; Bellon, observat. l. 1. c. 17. l. 2. c. 88.; Acad. des scien. ann. 1714. mem. p. 435. ann. 1741. mem. p. 50.

<sup>i</sup> Acad. des scien. ann. 1714. Mem. p. 13.

<sup>k</sup> Ibid.

<sup>l</sup> Exod. c. 25. v. 4.; Plin. l. 9. sect. 65. p. 528.; Quintil. instit. orat. l. 1. c. 2. At Rome scarlet was allowed to every body, but the purple was reserved for the highest dignities.

<sup>m</sup> Plin. l. 9. sect. 65. p. 528. l. 21. sect. 22. p. 240.

<sup>n</sup> Theophrast. histor. plant. l. 3. c. 16.; Plin. l. 16. sect. 12. p. 6.; Dioscorid. l. 4. c. 48.; Paul. l. 10. c. 36.

<sup>o</sup> *Πρινα καρών*. Plut. in Thes. p. 7.; Plin. l. 16. sect. 12. p. 6. calls these little grains *cuscutia*, from the Greek *κοσκύλλειν*, which signifies to cut little excrescences; because in effect they cut and scrape these small grains off the bark and the leaves of the holm oak.

<sup>p</sup> *Coccus ilicis celerrime in vermiculum se mutans* says Pliny, l. 24. sect. 4. p. 327.

ly appears, that the colour named *coccus* by the ancients, was our scarlet \*. The Septuagint and Vulgate having translated by that word, the Hebrew term used by Moses to design a red colour, other than purple, it follows, that they believed he meant the scarlet. But independently of the authority and consideration which these interpreters deserve, the etymology of the terms of the original text proves the truth of the sentiment which I propose. We see there plainly intended a dye made with worms †.

But I do not think, that this colour was as brilliant as that which we now call fine scarlet. I even doubt whether the ancients could approach towards it. Let us not forget, that, before chymical discoveries, the art of dying must have been very imperfect ‡. Without the preparations which chymistry affords, we could not dye stuffs fine scarlet. This is the most bright and beautiful colour in dying; but one of the most difficult to bring to its point of perfection §.

## A R T I C L E II.

### *Of the variety and richness of stuffs.*

WE have seen in the first part of this work, that the invention of embroidering stuffs, and varying the tissue with different colours, was very ancient. It was not possible, for want of monuments at that time, to enter into any detail of the progress of these two arts. The ages we are now treating of, give us a better opportunity of judging. We here see great magnificence and great taste in dress. To read some chapters in Exodus, is sufficient to convince us of

\* This is also the opinion of Mathiolus on Dioscorides.

† Exod. c. 39. v. 1. & 28. See le P. Calmet, t. 2. p. 350. & 351.

‡ At present they make very little use of *coccus* or *kermes* in dying. The cochineal, far superior to all drugs heretofore used to dye red, has made them leave it off. *Acad. des scienc. ann. 1741. mem. p. 69.*

§ See Senac, nouveau cours de Chymie, pref. p. 70.

¶ Pliny gives us to understand, that the colour of stuffs formerly dyed scarlet was not sufficiently durable nor adhesive, l. 22. sect. 3. p. 266. See also the remarks of P. Hardouin, note 5.

⌚ *Acad. des scienc. ann. 1741. mem. p. 76.*



this. What most deserves our attention, is the manner they could then employ the colours in the making of stuffs. It is certain, that they were not one and the same colour. Scripture speaks of works where there were many colours <sup>t</sup>. But in what way did they distribute them? were these stuffs striped or shaded? The first of these operations does not require much art; the other requires much more skill and ability. Yet it is very probable, that they then knew the secret of shading stuffs. Moses speaks of works in embroidery with a tissue of different colours with an *agreeable variety* <sup>u</sup>. The expression *agreeable variety*, which he uses to distinguish these sorts of stuffs, leads us to think, that the colours were not uniform, but that they had observed a gradation. But what completes the confirmation of this sentiment, is the force of the Hebrew word <sup>x</sup> used to design embroidered stuffs. To a tittle, this word signifies works of *embroidered feathers* <sup>y</sup>. Yet it does not appear, that the Hebrews then made use of the feathers of birds. It is not mentioned in the enumeration of the things used for the ornament of the tabernacle, and for the dresses of the high priest. The relation between the feathers of birds and the effect of embroideries, expressed by the term of the original text, appears to me to shew an imitation of the manner in which the colours are graduated in the plumage of birds, and consequently of shaded stuffs.

It was not only among the Hebrews, that the art of working embroidery was then in use. This art was equally known to many other people of Asia. Homer describing the occupations of Helen at Troy, says, that this princess worked a wonderful piece of embroidery. She there represented the bloody fights fought between the Greeks and the Trojans <sup>z</sup>. He speaks also of another work of the same kind, to which Andromache applied herself when she heard of the death of Hector. The subject of it was many sorts of flowers <sup>a</sup>. Before the war of Troy, the women of Sidon were famous

<sup>t</sup> Exod. c. 26. v. 1. & 31. c. 39. v. 2.

<sup>u</sup> Exod. c. 26. v. 1. & 31.

<sup>x</sup> **רַקָּמָה**, *Rakamah*, v. 36.

<sup>y</sup> Ezekiel, c. 17. v. 3. speaking of the wings of the great eagle, uses the word *Rakamah*.

<sup>z</sup> *Iliad*. l. 3. v. 125.

<sup>a</sup> *Ibid*. l. 22. v. 440. &c.

for their address and dexterity in working embroidery, and stuffs of different colours <sup>b</sup>.

At that time, they also knew the secret of putting gold into the tissue of stuffs and in embroideries. The scripture observes, that they used much gold in the habits of the high priest, and in the vails designed for the tabernacle <sup>c</sup>. How did they then prepare that metal for the making of stuffs? was it, as at present, drawn into wire, beaten, wound, and wrapt round other threads? or was it merely gold hammered into very thin leaves, afterwards cut with a chisel into little plates, or long and small shreds, which they put into the texture of their stuffs? Moses says, “ And they did beat the “ gold into thin plates, and cut it into wires, to work it in the “ blue, and in the purple, and in the scarlet, and in the fine “ linen <sup>d</sup>.” The sense of these expressions does not appear to me sufficiently determinate, absolutely to decide in favour of the first of these methods which I have shewn. I even think, that the passage in question gives us no idea of gold wire drawn as at present with a drawing-iron. The most natural interpretation, is to say, that they twisted the plates of gold about some of the different stuffs of which the ephod and the vails of the tabernacle must have been composed. They made, by this means, a sort of gold thread resembling ours, except that the basis of this thread was of pure gold cut into shreds, whereas ours is only silver gilt drawn by the drawing-iron.

We might perhaps raise a difficulty, and say, that the stuffs in question were made only of pure plates of gold interwoven: there is mention made of such habits in Pliny <sup>e</sup>. We also know, that they sometimes adorned the images of the gods in dresses of this sort <sup>f</sup>. But the text of Moses is absolutely repugnant to this notion: he says expressly, that the gold was reduced into very thin plates, that it might be

<sup>b</sup> Iliad. l. 6. v. 289. &c.

<sup>c</sup> Exod. c. 28. v. 8. c. 39. v. 3.    <sup>d</sup> Ibid c. 39. v. 3.    <sup>e</sup> L. 33. sect. 19. p. 616.

<sup>f</sup> Arist. de cura rei famil. l. 2. t. 2. p. 511.; Ælian. var. hist. l. 1. c. 25.; Cicero, de nat. deor. l. 3. n. 34.; Valer. Max. l. 1. c. 1. sect. 3. *externa*.; Paus. l. 5. c. 11.



wound and twisted to put it into the tissue of the other threads of divers colours. This detail removes all the difficulty.

The art of putting gold into the tissue of stuffs, must have been known in many countries in the ages we are now examining. Homer speaks of the girdle of Calypso, and of that of Circe <sup>g</sup>. We might likewise believe, that this poet mentions silver stuffs <sup>h</sup>. But all interpreters agree to understand the expressions which Homer uses in this passage, of white habits <sup>i</sup>. The ancients did not use to put silver into their stuffs <sup>k</sup>. We find in reality, since Moses and Homer, an uninterrupted tradition in antiquity about gold stuffs, whereas we find nothing like it as to silver ones. We cannot bring one single passage, that is clear and precise, of any ancient author, where mention is made of silver wire. Pliny, who has expressly spoken of gold wire, would he have forgot or neglected to remark that they did the same work in silver? His subject, his ends, his method, all required that he should speak of it, if that art had been known in his time. The same author, in a particular chapter, treats at large of the use they made of silver for divers ornaments <sup>l</sup>. Yet in all the enumeration he gives of the many uses to which they put this metal, there is not one word of silver wire.

I shall finish what I have at present to say on the habits of the ancients, by an observation I think very important. We perceive a very sensible difference between the stuffs the ancients used, and those we use at present. All the dresses anciently might be washed and bleached daily <sup>m</sup>. The greatest part of ours would be spoiled by such an operation. I only just mentioned this. The fear of falling into details, which, in the end, might become tiresome, hinders me from farther inquiring into them.

<sup>g</sup> Odyss. l. 5. v. 232. l. 10. v. 543. &c.

<sup>h</sup> Ibid. l. 5. v. 230. l. 10. v. 23. & 24.

<sup>i</sup> See Hesychius, voce *Ἀργυρέοιο*.

<sup>k</sup> See Vopisc. in Aurelian. p. 224. &c. and the notes of Saumaïse, p. 394.

<sup>l</sup> L. 33. c. 12.

<sup>m</sup> See Iliad. l. 22. v. 154. & 155.; Odyss. l. 6. v. 91. & 92.; Herod. l. 2.

n. 37.

## ARTICLE III.

*Of the discovery and employment of precious stones.*

**I**T is said in scripture, that the ephod and the breast-plate of judgment of the high priest, were ornamented with many precious stones; the assortment appeared various and complete enough. These stones were mounted in gold, and disposed with order and symmetry. Moses farther says, that he had engraved on them the names of the twelve tribes<sup>a</sup>. All these facts are sufficiently important to merit a particular regard.

We do not find any mention made in ancient history of the use of precious stones, before Moses. Yet I do not think, that one ought to look upon him as the inventor and author of that ornament. That knowledge must have preceded the time of this legislator; and it appears to me very probable, that, in this particular, he only conformed to a custom already received. This conjecture is supported by the testimony of the book of Job, a work, I believe, prior to Moses<sup>b</sup>. Many species of precious stones are spoken of there<sup>c</sup>. Job could not have entered into this detail, if jewels had not been well known in his time. I also think we have a glimpse of proofs of the antiquity of this knowledge, in the description Moses gives of the terrestrial paradise. He says, that one of the branches of the rivers which ran from that place of delights, watered the land of Hevilah: it is there, adds he, that we find precious stones<sup>d</sup>. Moses, I think, would not have indicated this circumstance in so simple a manner, if the fact had not been well known before the time in which he writ.

It is very probable, in reality, that the first men should have known very early coloured precious stones. We may easily imagine in what manner they should have come to

<sup>a</sup> Exod. chap. 28.

<sup>b</sup> Chap. 28. ver. 6. &c.

<sup>c</sup> See our dissertation.

<sup>d</sup> Gen. c. 2. v. 12.



this discovery. The same causes which originally discovered metals, I mean, the throwing up of the earth, and the ravage of great waters, might have given the knowledge of precious stones. We find these rich productions in the mines where metals are formed †, in rivers ‡, and even at the surface of the earth §, where torrents often leave them. Although the colour of rough precious stones is neither very lively nor brilliant, yet they are sufficiently so, to be remarked, and for the sight of them to excite our attention; yet they might have neglected them at first, and to the time they found the art of polishing them. It is to this operation, that fine stones owe that brilliancy and liveliness which has made them always so much sought after. Chance, it is certain, must have had a great share in this discovery. Among the number of rough stones which happened to be seen by the first men, they must have found some naturally broke. The lustre and liveliness with which they had seen these breaks shine, must have given the first notion of polishing. They tried to imitate the operation of nature, in taking from the stones, that bed, that dark shell, with which they are commonly covered. We can only form conjectures of the way they could have attained this. They must first have overcome the obstacle which they must have met with in the extreme hardness of most of those stones. Yet chance must have assisted the first men on this occasion. Almost all true stones must be polished with their own powder. Some person must have thought of rubbing two oriental stones against each other, and has succeeded, by this means, to give them a sort of polish. The cutting of the diamond owed its origin to a stroke of chance.

† Theophrast. de lapid. p. 395.; Plin. l. 37. sect. 15. & 32. &c.; Solin. c. 15. p. 26. D.; Isidor. orig. l. 16. c. 7.; Alonzo Barba, t. 2. p. 8. & 334.

‡ Theophrast. de lapid. p. 396.; Strabo, l. 2. p. 156.; Plin. l. 37. sect. 17. & 23. p. 778.; Solin. c. 15. p. 26. D.; Isidor. orig. l. 16. c. 8.; Anc. relat. des Indes, p. 123.; Colonne, hist. nat. t. 2. p. 361.

§ Plin. l. 37. sect. 76.; Isidor. l. 16. c. 8.; Alonzo Barba, t. 2. p. 71.; Hellot. de la fonte des mines, p. 22. 24. 25. 40. 55.; Hist. gen. des voyag. t. 8. p. 549.; Rec. des voyag. au Nord, t. 10. p. 65.; La Condamine, voyag. à l'équateur, p. 81. & 82.; Colonne hist. nat. t. 2. p. 361.; Voyage de D. Ant. d'Ulloa, t. 1. p. 393.; Acad. des scien. ann. 1718. m. p. 85.

Lewis de Berquen, a native of Bruges, is said to have been the first who put this in practice ; it is not yet three hundred years since <sup>u</sup>. He was a young man, who had just left school, and being born of a noble family, was in no respect brought up as a lapidary. He had found out, that two diamonds cut each other, if they were rubbed a little strongly against each other : this was sufficient to raise, in an industrious person, and one capable of meditation, very extensive ideas. He took two diamonds, fixed them on cement, he grated them against each other, and carefully collected the powder which came from them. Afterwards, by the assistance of certain iron wheels which he invented, he came, by means of this powder, to polish diamonds perfectly, and to cut them in what manner he thought proper <sup>x</sup>.

I think, we may very well apply this example to the origin of the art of polishing precious stones. Yet I doubt, that in the first times, or even in the ages we are now engaged in, whether they knew the methods we use at present to give to stones that beautiful polish, and those agreeable forms which cause their principal merit. The proceedings of the first lapidaries could only be very imperfect. I think we ought not to judge very favourably of their knowledge, nor even of that which, in general, antiquity might have in this part of the arts.

But how imperfect soever the ancient methods may have been, it is certain, that, at the time of Moses, the art of polishing precious stones was known. They also knew how to set them ; a work very delicate. But what appears to me most worthy of notice, is, that they then knew the art of engraving them. The ephod of Aaron was adorned with two onyxes set in gold. They had engraved the names of the twelve tribes, that is to say, he had six names engraved on each stone <sup>y</sup>. The breast-plate of judgment shone

<sup>u</sup> In 1476. Merveill. des Indes Orient. par de Berquen, p. 13.

<sup>x</sup> Ibid.

<sup>y</sup> Exod. c. 28. v. 9. &c. The Hebrew text implies, *of a work of an engraver of fine stones, and engraving of seals.*



with the lustre of twelve precious stones of different colours, and on each was read the name of one of the twelve tribes<sup>z</sup>. If we have ever so little experience in the arts, we know, that to engrave fine stones requires skill, precision, and knowledge. We must have many fine and delicate tools, a great steadiness of hand, and practice. I agree, that, for the fineness of execution, we ought not to compare the engraving of some names, to the labour and dexterity required in the figures of men or animals, or subjects of composition. But as to the essence of the art, the process is always the same, and only differs in the degrees of perfection. We ought to be surprised to see, in the time of Moses, and without doubt before, that they were able to execute such works. I look upon engraving on fine stones as the most remarkable evidence of the rapid progress of the arts in some countries. This work supposes a number of discoveries, much knowledge, and much experience\*.

As to the species of precious stones which adorned the habits of the high priest, we can only speak of them in a very uncertain manner. Interpreters do not agree in the signification of the Hebrew terms; and we must allow, that it is almost impossible, for want of monuments and points of comparison, to be able to ascertain it: we only know, that Moses meant an assortment of coloured precious stones; I say of coloured, because I do not think one ought to put the diamond among the precious stones they knew at that time. Many other reasons authorise this doubt. I could immediately avail myself of the opinions of interpreters and commentators, the greatest part of whom do not admit of the diamond. I could likewise shew, that those who have thought proper to comprehend this stone among those of the breast-plate, are not supported by any certain etymology. But without troubling ourselves with all these discussions, I

<sup>z</sup> Exod. c. 28. v. 17.

\* It must be agreed, that the ancient Peruvians, whose monarchy had not subsisted above 350 years, understood perfectly well the working of precious stones. *Hist. gen. des voyages*, t. 13. p. 578. & 579.

think we may find facts enow in antiquity, to make us doubt of diamonds being in use at the time of Moses.

We see that there is no mention made of this precious stone in the writings of the most ancient authors of antiquity. Homer, Hesiod, Herodotus, who had occasion to describe so many different sorts of ornaments, never mention the diamond\*. We must descend almost to the ages just preceding the Christian æra, to find any writer who has made mention of them. Pliny, who appears to have made great researches about precious stones, owns that the diamond was a long time unknown<sup>a</sup>. And it must have been so in reality. Many ages must have passed away before they knew the value of that stone, and many more before they knew to set a price upon it.

The diamond is of no value but as it shines, and it could not shine till it was cut. Lucky chances, one may say, may have offered early some of these stones naturally polished. These natural diamonds may have put the first men in the way of knowing those that were rough, and may have given hints to cut them. It is true, we sometimes meet with diamonds, where the cutting seems to be shewn; having long rolled in the bed of rapid rivers, they are found naturally polished, and appear transparent; some are even cut in facets or tables<sup>b</sup>. They call these sorts of diamonds, *rude plains*; and when their figure is pyramidal, they call them *natural points*<sup>c</sup>. But these happy conjunctures, besides that they were very rare, could not have been of much use to the first men for the knowledge of diamonds. There is no sort of relation, nor any resemblance between these sorts of stones when they are rough, and when they are cut. It is not with diamonds as with coloured stones. These, though rough, have a colour, which

\* It is proved, that the terms *ἀδάμας*, and *ἀδάμαντος*, which we find sometimes in the writings of Homer and Hesiod, have no relation to the diamond.

<sup>a</sup> L. 37. sect. 15.

<sup>b</sup> Leibnitz Protog. p. 23. edit. in 4to, 1748.

<sup>c</sup> Boetius de Boot, gemm. & lapid. hist. l. 2. c. 3. p. 121.; Tavernier, t. 2. l. 2. c. 16. p. 277. c. 17. 283; Alonzo Barba, t. 2. p. 191.; De Laet. de gemm. & lapid. l. 1. c. 1. p. 314.; Mariette, traité des pierres gravées, t. 1. p. 155



at all times must have made them be remarked, and give an idea to polish them; whereas diamonds, before they are cut, shew nothing like it, and indicate nothing of what they are in the inside. They look like a grain of salt, a common flint of greyish white, dirty and dull. The first men of consequence could not have paid any attention to them. This, we know, has happened to the diamonds of Brasil. They were a long time neglected, and confounded with flints and gravels<sup>a</sup>. It is not above thirty years, or thereabouts, that they began to know their value<sup>e</sup>.

We should not then be surpris'd to see that in antiquity fine coloured stones were so common, while diamonds were so rare. They must have been a long time unknown. It required some ages to learn men that these sorts of flints, which they had so long neglected, were the most bright and the richest production of nature. They could not be instructed before they had discovered the art of cutting them; a very late discovery, since it is not yet of 300 years standing<sup>f</sup>. Before that time they could not have seen any diamonds but *rough polished*, or *natural points*. We see these sorts of stones in the description which Pliny, Solinus, and Isidorus give of the diamond. They describe it generally very small<sup>g</sup>, with six angles or faces<sup>h</sup>, and transparent<sup>i</sup>, yet approaching to a black<sup>k</sup>, and without much water or vivacity. Isidorus even defines the diamond, an Indian stone small and little agreeable<sup>l</sup>. All these characters agree very well with the *natural points*. These sorts of stones are commonly very small. We sometimes meet with some, which by a sport of nature are cut with six faces,

<sup>a</sup> Anson's voyage, p. 44.

<sup>e</sup> Ibid. ; Mercure de France, Janvier 1730. p. 124. Fev. 1732. p. 344. & 345.; Mariette, *loco cit.* p. 161.

<sup>f</sup> By Lewis de Berquen in 1476. See the beginning of this article.

<sup>g</sup> Plin. l. 37. sect. 15. ; Solin. c. 52. p. 59. C. ; Isidor. orig. l. 16. c. 13.; Marbod. l. de lapid. pret. c. 1.

<sup>h</sup> Plin. Solin. *locis cit.* <sup>i</sup> Plin. Solin. Isidor. *ibid.*

<sup>k</sup> *Hunc ita fulgentem crystallina reddit origo.*

<sup>l</sup> *ferruginei non desinat esse coloris.* Marbod. *loco cit.*

<sup>1</sup> *Adamas, Indicus lapis, parvus, & indecorus, ferrugineum habens colorem,* *loco cit.*

in a pretty regular manner <sup>m</sup>. But these diamonds have little that is agreeable in them. The polishing is coarse, the form irregular, without water and without vivacity: we cannot compare them to any thing better than a piece of burnished steel <sup>n</sup>. To convince us of the truth of these facts, we need only to cast our eyes on any of the ancient trinkets adorned with diamonds.

They preserve in the treasury of St Denis a clasp of the mantle which our kings used to put on the day of their coronation. This piece is very ancient <sup>\*</sup>. We there see four *natural points*. There is likewise in the same treasury, a reliet almost as ancient <sup>†</sup> as the clasp I have spoken of, and adorned with eight *natural points*. All these stones are very small, black, and no way agreeable to the eye. There is only one on the relic of St Thomas a little brighter than the others, and has a little more water. It is plain that Pliny means this sort of stones, when he says, that the diamond was like crystal <sup>o</sup>.

All imperfect as these sorts of diamonds are, they are very rare, and are not often met with. Wherefore, they looked upon them formerly as the most valuable production of nature. Pliny remarks, that for many ages none but the most powerful monarchs were able to have them <sup>p</sup>. They suspected Agrippa, the last King of the Jews, of having an incestuous commerce with his sister Berenice. The diamond of which he made a present to that princess, almost confirmed their suspicions <sup>q</sup>; so high an idea had they of this stone, then looked upon as inestimable. All these considerations, joined to the silence with respect to diamonds, of the most ancient writers of antiquity, make me doubt whether this precious stone was of the number of those used by Moses to adorn the ephod and breast-plate of the

<sup>m</sup> Bibl. chois. t. 1. p. 265.; De Laet, de gemm. & lapid. l. 1. c. 1. p. 314.

<sup>n</sup> See merveill. des Indes, p. 13.

<sup>\*</sup> They think it was about the time of St Lewis.

<sup>†</sup> It was given by John Duke of Berry, son of King John.

<sup>o</sup> L. 37. sect. 15. p. 373.

<sup>p</sup> *Diu non nisi regibus, & iis admodum paucis cognitum.* l. 37. sect. 15. init.

<sup>q</sup> Juvenal. satir. 6, v. 155. &c.



high priest. Let us add to this the extreme difficulty of engraving the diamond.

They will object to me, without doubt, the names of the twelve tribes engraved on the stones of the ephod and breast-plate. It is with powder of diamond that they commonly execute this sort of work. We may then infer, that, at the time of Moses, they had found out this property in the powder of diamond, and that they were able to use it to polish the diamond itself. The objection is plausible, and the consequence very natural. But yet it is not difficult to be answered.

Nothing at present obliges us to believe, that the artists who engraved the names of the twelve tribes on the stones of the ephod and the breast-plate, did make use of the powder of diamond; they might use for these sorts of works, rubies, sapphires, or other oriental stones reduced to powder<sup>r</sup>: they might even use emery<sup>s</sup>, the property of which was not unknown to the ancients<sup>t</sup>. I own that there is no comparison to be made between a work executed with powder of diamond, and that which is only done with powder of oriental stones\*, or emery. But these powders were sufficient to engrave names, which do not require such elegant workmanship as the figures of men, animals, flowers, &c.

Besides, should it be granted that the engravers employed by Moses, made use of the powder of diamond, that would decide nothing as to the knowledge of cutting the diamond. It is certain that the ancients knew perfectly the property of the powder of diamond to polish fine stones; they made great use of it, as well for graving, as for cutting them.

<sup>r</sup> Mariette, traité des pierres gravées, t. 1. p. 202. <sup>s</sup> Id. ibid.

<sup>t</sup> See Job, c. 41. v. 15. edit. of 70.; Dioscorid. l. 5. c. 166.; Hesychius, voce Σμύρις.

\* The term *oriental* stones, in the style of a lapidary, does not always signify a stone which comes from the east. They mean in general a very hard stone, such as sapphires, rubies, topazes, & amethysts.

It is to distinguish these sorts of stones, from those which are softer, that they call them *orientals*; those of the east being commonly much harder than those of other countries, though we sometimes meet with some as hard as those which come from the east. And even these last are not all of an equal hardness.

Pliny says so very plainly <sup>u</sup>; and if he had not, the principal works which the ancients have produced in this way, and which we still have before us, would sufficiently shew it. But it is equally certain that it never came into their thoughts to use this powder on the diamond itself, and the art of cutting it was unknown to all antiquity. This fact, it is true, appears difficult to comprehend: it is not however for that less certain. This is not the only example that we might quote of the bounds which the human mind seems often to have imposed on itself. It stops in the moment that it is nearest its end, and when one step further would reach it.

As we are on this article, I think we ought to shew in few words what we find among the ancients on the nature of the diamond, and of the places where they found it. The manner in which they speak of them, has given room to some modern authors <sup>x</sup>, to think, that the diamonds known in antiquity, were not of the same species with those we use at present.

We see that the ancients got these precious stones from many countries, where they are not to be found at this time. It is said, that at first they came only from Ethiopia; they got them from certain mines situated between the temple of Mercury and the isle of Meroe <sup>y</sup>. These stones could not be much esteemed, since the largest were not above the size of a cucumber seed, and approached to that colour <sup>z</sup>. Afterwards they got diamonds from many countries, from the Indies, from Arabia, the isle of Cyprus, and Macedonia <sup>a</sup>. All these stones were very small, the largest being of the size of a nut-kernel <sup>b</sup>. What appears most astonishing, is, that, according to some authors, they found diamonds in the European Sarmatia, among the A-

<sup>u</sup> L. 37. sect. 15. p. 773. sect. 76. p. 796.

<sup>x</sup> Aldrovand. Mus. metal. l. 4. c. 78. p. 947.; Colonne, hist. nat. t. 2. p. 353. & 354.

<sup>y</sup> Plin. l. 37. sect. 15. Diodorus and Strabo, who speak likewise of this isle, say plainly that it had many mines of gold and precious stones; but they do not specify the diamond in particular. Diod. l. 1. p. 38.; Strab. l. 17. p. 1177.

<sup>z</sup> Plin. l. 37. sect. 15.

<sup>a</sup> Ibid.

<sup>b</sup> Ibid.



gathyrſes <sup>c</sup>, a people who dwelt above the Palus Meotis <sup>\*</sup>. It was even, if we believe them, in theſe frozen regions, that they ſaw the moſt beautiful diamonds <sup>d</sup>. Let us further ſay that the ancients were perſuaded that the greateſt part of precious ſtones came from gold mines <sup>e</sup>.

Except the Indies, we at this time get no diamonds from any of the countries I have named; and even in the Indies, we at preſent only know the kingdoms of Golconda, of Viſapour, and of Bengal <sup>f</sup>, where there are ſaid to be mines. Some travellers ſay that ſome are likewiſe found in the iſle of Borneo <sup>g</sup>; and they aſſure us that formerly they got diamonds from other different countries of the Indies <sup>h</sup>. Be it as it will, the mines uſed at preſent have only been known a few ages. Tavernier ſays that that of Bengal is looked upon as the moſt ancient <sup>i</sup>, without fixing the time of its diſcovery. The mine of Viſapour has only been known about 300 years <sup>k</sup>. For that of Golconda, at the time of Tavernier, it was only one hundred years ſtanding <sup>l</sup>. As to the mines of Braſil, it is only thirty years, as I have before obſerved, ſince they were diſcovered <sup>m</sup>. Theſe are the only countries where we now find diamonds.

<sup>c</sup> Amm. Marcell. l. 22. c. 8. p. 314.

<sup>\*</sup> See Cellarius, not. orb. antiq. p. 405.

<sup>d</sup> Dionyſ. Perieget. v. 318. & 319.

This paſſage of Dionyſ. Perieget. fixes the ſenſe in which we ought to take the term *adamantis lapidis*, which Ammianus Marcellinus uſes, *loco cit.* He could not mean the *load-ſtone*.

<sup>e</sup> Plin. l. 37. ſect. 15.; Solin. c. 52. p. 59. D.

Plato, in politico, p. 558. and in Tim. p. 1066. ſpeaks of an hard metallic body which he calls ἀδάμας; but I doubt whether that philoſopher meant the diamond. See how he explains himſelf. “What they call ἀδάμας, is “nothing but a branch of gold, whoſe extreme denſity has made it black and “very hard.” One may alſo tranſlate this paſſage by “Ἀδάμας is only gold “which has acquired a black colour, and, on account of its extreme denſity, “is very hard.”

Is it really then of the diamond Plato would ſpeak? It is not the load-ſtone which he commonly calls the ſtone of Hercules or of Heraclea, in Tim. p. 1080. in Ion. p. 363. What is it then he would mean? that is what one cannot well comprehend.

<sup>f</sup> Tavernier, part. 2. l. 2. c. 15. 16. & 17. <sup>g</sup> Ibid. c. 17. p. 284.

<sup>h</sup> Boetius de Boot. gemm. & lapid. hiſt. l. 2. c. 3.; De Laet, de gemm. & lapid. l. 1. c. 1.

<sup>i</sup> *Locis cit.* c. 17. init.

<sup>k</sup> Ibid. c. 15. p. 267.

<sup>l</sup> Ibid. c. 16. p. 277. Tavernier went to viſit theſe mines in 1665.

<sup>m</sup> See ſupra, p. 116.

If we see very little relation between the countries I have shewn, and those from which the ancients obtained their diamonds, we shall find still less resemblance between the properties they attribute to these stones, and those we now find in them. According to Pliny, the diamond resisted the hammer, and even made the anvil shake on which they beat it <sup>a</sup>. They looked upon it as a piece of luck to be able to break it <sup>b</sup>, and it was not possible to do it but by softening it in hot goats blood, into which they put it to steep <sup>c</sup>. We do not find any of these properties in our diamonds. Their hardness is not so great, but they will be broke by the hammer as often as you will put them to the proof. They are broken, and even bruised very easily. With regard to the goats blood, we should try in vain to soften our diamond with that receipt; we can only work it with its own powder; that is the only agent that will take hold of this stone.

And I am persuaded, moreover, that it has been the same in all ages. If we find any difference between our diamonds and those of the ancients, it is because all that they have said on this subject is romantic, and little to be depended upon. These inaccuracies are a further proof of the little knowledge they had in antiquity of this precious stone.

The same defects take place in almost all that the ancients have written on precious stones <sup>d</sup>. If we were to depend upon what they have written, for example, about emeralds, we must say that they knew a species different from ours, and which we have not. They reckon twelve sorts of these precious stones, which they distinguish by the names of the kingdoms or provinces from whence they believed they were got. I shall not stop to give the particulars of them, we may see it in Pliny <sup>e</sup>. I shall only say, that, ac-

<sup>a</sup> L. 37. sect. 15.

<sup>b</sup> *Et cum feliciter rumpere contingit*, &c. *ibid.* p. 733. See also Senec. de constant. sapient. c. 3. t. 1. p. 395.

<sup>c</sup> Plin. p. 733.; Paus. l. 8. c. 18. p. 636.

<sup>d</sup> See Diod. l. 3. p. 206.; Strabo, l. 16. p. 1115.

<sup>e</sup> L. 37. sect. 16.



according to this author, the emeralds of Scythia and Egypt were the most esteemed <sup>c</sup>.

We at present only know two sorts of emeralds, the oriental and occidental. Some authors have added a third, which they call the emerald of the old rock <sup>d</sup>. They are much divided about the places from whence these precious stones come to us. According to Herbelot, it is in the neighbourhood of Asuan, a town situated in the Upper Egypt, that they find the only mine of oriental emeralds known in the whole world <sup>e</sup>. But there is room to doubt of this fact. It is certain that we still find in Egypt many emerald mines; but besides that their colour is not beautiful, they are so soft that it is not possible to work them <sup>f</sup>. According to Tavernier, Peru is the only place from whence emeralds come: he affirms that the east never produced any <sup>g</sup>, and he is not singular in his opinion <sup>h</sup>. Chardin, on the contrary, says, that they now get them in Pegu, in the kingdom of Golconda, and on the coast of Coromandel <sup>i</sup>. We may add the kingdom of Calcutta and the isle of Ceylon, where Pyrard assures us they find many, and those most beautiful <sup>j</sup>. With regard to emeralds of the old rock, Chardin says he has seen in Persia many of this sort, which they told him came from an ancient mine in Egypt, the knowledge of which is at present lost <sup>k</sup>.

In fact, it is very dubious whether we know at present any of the twelve sorts of emeralds named by the ancients. For it is very problematical as to those at present got from the east, many persons believing they only come from America.

We no longer find the qualities in our emeralds, which the ancients attributed to some of these stones. Pliny affirms, that the emeralds of Scythia and Egypt were so hard

<sup>c</sup> Plin. sect. 17.

<sup>d</sup> Mercure Indien. c. 7. p. 18.; Taver. part. 2. l. 2. c. 10. p. 228.

<sup>e</sup> Bibl. orient. voce *Asuan*, p. 141.

<sup>f</sup> Maillet, descript. de l'Egypte, p. 307. & 318.

<sup>g</sup> Second part. l. 2. c. 19. p. 293. & 294.

<sup>h</sup> See le Mercure Indien. c. 7. <sup>i</sup> T. 4. p. 70.

<sup>j</sup> Voyage de F. Pyrard part. 1. p. 286. part. 2. p. 89.

<sup>k</sup> T. 2. p. 239. T. 4. p. 69. & 70.

that they could not be worked <sup>a</sup>. On the contrary, we have no stone more tender nor which scratches more easily; 'tis for this reason that they do not often risk the engraving it. An artist who has not a steady hand, is in perpetual danger of rubbing off the brilliant angles <sup>\*</sup>. Besides, we cannot comprehend on what was founded the observation of Pliny, that in general it was not allowed to engrave on the emerald <sup>c</sup>. Ancient history says quite the contrary. The ring which Polycrates, tyrant of Samos, threw into the sea, and which was afterwards found again in the belly of a fish, was an emerald engraved by Theodorus, a celebrated artist of antiquity <sup>d</sup>. Theophrastus also relates that many persons used to have emerald seals to please the sight <sup>e</sup>. Lastly, Pliny himself had before him many examples of these stones engraved <sup>f</sup>.

The ancients have thought proper to propagate many tales about emeralds. They say, that, in the isle of Cyprus, there was on the sea-shore a lion of marble whose eyes were of emeralds. These stones they pretend were so lively, that their lustre penetrated to the bottom of the sea. The tunny fish were frightened by them, and deserted that shore. The fishermen not knowing what to attribute this accident to, suspected that it might be occasioned by the emeralds of which the eyes of the lion in question were made. They took them away, and immediately the fishes returned in as great plenty as before <sup>g</sup>.

Herodotus assures us that he had seen in the temple of Hercules, at Tyre, a column of only one emerald which gave a very great light at night <sup>h</sup>. Theophrastus reports, from the Egyptian annals, but without appearing to give

<sup>a</sup> L. 37. sect. 16.

<sup>\*</sup> See Mariette traité des pierres, t. 1. p. 166.

<sup>c</sup> *Loco supra. cit.* <sup>d</sup> Herod. lib. 3. n. 41.; Paus. l. 8. c. 14. <sup>e</sup> De lapid. p. 394.

<sup>f</sup> See l. 37. sect. 3. p. 765. <sup>g</sup> Plin. l. 37. sect. 17. p. 775.

<sup>h</sup> L. 2. n. 44.

Theophrastus, who speaks of this column, adds, that it was very large; but does not say that it spread a light in the night; besides, he suspects that perhaps it was not a true emerald, but a ballard stone, a false emerald. *De lapid. p. 394. & 395.*



much credit to them, that a king of Babylon had made a present to a king of Egypt, of an emerald four cubits long and three broad<sup>l</sup>. He, adds that the Egyptians boasted also of having in their temple of Jupiter an obelisk of forty cubits in height and four in breadth, composed of four emeralds<sup>m</sup>. Another writer pretends, that, in his time, they still had in the labyrinth of Egypt a colossal statue of the god Serapis, nine cubits high, which was only of one emerald<sup>n</sup>. Cedrenus lastly assures us, that, in the reign of the Emperor Theodosius, they saw at Constantinople a statue of Minerva of one emerald four cubits high. This was, say they, a present made formerly by Sesostris to the King of the Lydians<sup>o</sup>. Tradition also says that Hermes Trismegistus had graved upon one of these stones the process for the great work, and had it buried with him<sup>p</sup>. Without doubt these relations appear very fabulous and greatly exaggerated. We should be tempted, at first sight, absolutely to reject them. But yet let us examine what could produce them, and what could have been the foundation of them.

I know not at present of any emeralds in any place of the size of those I have mentioned, nor even that come near them. They shew, it is true, at Genoa a vase of a considerable size, which they pretend is an emerald. But I think I have strong reasons to doubt whether it be truly a fine stone<sup>\*</sup>: I shall therefore range it in the class of those works to which they have improperly given the name of emerald<sup>q</sup>. But whence comes the error? what can have occasioned it? 'Tis about this I am going to propose some conjectures.

We might say that all the astonishing works of which I

<sup>l</sup> Ibid. p. 394.      <sup>m</sup> Ibid.

<sup>n</sup> Apion. apud. Plin. l. 37. sect. 19. p. 776.

<sup>o</sup> Page 322.

<sup>p</sup> This is what the alchymists call even at this time the *emerald table*. See Conringius de Hermet. Med. l. 1. c. 3. p. 31.; Fabricius, bibl. Gr. t. 1. l. 1. c. 10. p. 68.

<sup>\*</sup> This vase is full of blasts and bubbles, a proof that it is only coloured glass. Mercure de France, Aout 1757. p. 149. & 150.

<sup>q</sup> See P' Escarbot hist. de la N. France, p. 847.; Le Mercure Indien. c. 7. p. 41.; Journ. des sçav. Nov. 1685. p. 282.

have spoken, were made of that species of stone called *base emerald*. It is found in pieces of a considerable size; we may have seen tables of a very great extent. This explication is not absolutely without probability, and in some sort would clear up the difficulty. But I prefer the following one.

The art of making glass is a discovery which goes back to very remote antiquity. The ancients used to work and cast pieces much more considerable than we do at present. I shall only give for example those columns of glass with which the theatre built by the care of Scaurus was ornamented<sup>r</sup>. The ancients knew likewise the art of giving to glass all sorts of colours<sup>r</sup>. I should think then that those astonishing works which Herodotus, Pliny, and the other authors say were of emerald, were only coloured glass. The facts, by this means, become probable. By this hypothesis, it is easy, for example, to explain the particularities of the column which was seen in the temple of Hercules of Tyre. Herodotus says it was of emerald, and that it gave at night a great light<sup>r</sup>. Now, in my opinion, it was a column of glass, of the colour of an emerald. It might be hollow, and they might put lamps within which would make it look luminous during the night.

I find in an ancient author a fact which confirms perfectly the explication I propose. We read in the seventh book of the recognitions of Saint Clement<sup>u</sup>, that St Peter was desired to go into a temple in the isle of Arad<sup>\*</sup>, to see there a work worthy of admiration. These were columns of glass of an extraordinary height and size. Is it not probable that Herodotus meant some such work as this? But the Greeks, instead of speaking just the fact, have, according to their custom, imagined a column of emerald, which shone during the night. Let us add likewise, that it might happen that Herodotus was deceived by the artifice of the Tyrian priests.

<sup>r</sup> Plin. l. 36. sect. 24. p. 744.    <sup>r</sup> Ibid. sect. 66. 67. & l. 37. sect. 26.

<sup>r</sup> L. 2. n. 44.

<sup>u</sup> N. 12. t. 1. p. 555. apud patres apostolic. edit. Antwerp. 1698. in fol.

<sup>\*</sup> It was in this isle that the Tyre of which Herodotus speaks was built.



I will say no more on this subject. I even perceive I have dwelt perhaps too long upon it. Yet I hope to be easily forgiven these little digressions I have fallen into. I thought it would be allowed me more freely, as it is the only time I shall have to treat of this matter.

### C H A P. III.

#### *Of Architecture.*

THE art of building comprehends many objects, and includes many parts which make so many distinct classes separated from each other. We may consider architecture either with relation to solidity and the boldness of the design, or on the score of regularity, of elegance, of taste, and the magnificence of buildings. I could only give conjectures of the state and progress of this art in the first part of my work. There remain too few particulars of what happened in that remote antiquity to form any judgment upon it. We are absolutely ignorant of the taste which reigned then in buildings.

We find, in the ages we are now examining, facts which relate to the different parts of architecture. By the exposure which I am going to make, the reader will judge of the progress of this art, and of the rapid improvements which the Egyptians and the people of Asia Minor had made in it. We shall begin with the Egyptians. Their monuments are the first in date, in the space of time which makes the subject of this second part of our work.

### A R T I C L E I.

#### *Of the state of architecture among the Egyptians.*

WE have seen, in the preceding books, that the origin of arts was very ancient in Egypt<sup>a</sup>. The works of which I am going to give an account would prove it, in-

<sup>a</sup> Part 1, book 2.

dependently of the testimony of historians. How indeed could the Egyptians have executed them, at the times we are now considering, without a prior knowledge of more and different inventions?

Sesostris, whose reign falls about the beginning of the ages we are now running over, deserves for many reasons to be ranked among the most famous monarchs of antiquity. This prince, after having employed the first years of his reign to over-run and conquer a vast extent of country, gave himself up ever afterwards to find out ways to make his kingdom flourishing. Equally great in peace and war, he signalized his leisure by monuments whose duration will greatly outlive his conquests.

The different countries where Sesostris had carried his arms, enabled him to make many discoveries. He made use of them to enrich Egypt with many very useful inventions<sup>b</sup>. This prince undertook works of very difficult execution and of a prodigious expense. The object of these labours, by immortalizing the name of Sesostris, was to contribute also to the security and utility of Egypt.

The first care of this monarch, was to find out the means of putting his kingdom in safety from all incursions. Egypt was open on the east side. Sesostris raised a wall in that part, which extended from Pelusius to Heliopolis, which is about 1500 stadia<sup>c</sup>. He afterwards cut divers canals, some to water the lands<sup>d</sup>, the others for the ease and intercourse of commerce from town to town, and for facilitating the carriage of merchandise<sup>e</sup>. The want of water fit for drinking is at this time one of the greatest inconveniencies to which Egypt is subjected<sup>f</sup>. Sesostris had remedied it. He had directed his works in such a manner, that the towns most

<sup>b</sup> Diod. l. i. p. 65.; Athenod. apud Clem. Alex. *colloq. ad Gent.* p. 43.

Athenodorus might be in the right in saying, that the conquests of Sesostris gave to this prince the means of bringing into Egypt many able workmen. But when he adds, that it was from Greece that these workmen came, we see very plainly it is a Greek who speaks, and who, right or wrong, would extol his nation. The Greeks in the time of Sesostris were too unpolished to have any able artists among them.

<sup>c</sup> Diod. l. i. p. 67. <sup>d</sup> Chap. i. <sup>e</sup> Diod. l. i. p. 66.

<sup>f</sup> Maillet. *descript. de l'Egypte*, lett. i. p. 16.



distant from the Nile never wanted water, or the means of getting it easily <sup>g</sup>.

According to some authors, Sesostris had projected the junction of the Red sea with the Mediterranean, by a canal which coming from the Red sea should fall into the Nile <sup>h</sup>. But the enterprize was not finished. They pretend, that the apprehension of laying Egypt under water, or, at least, the corrupting the waters of the Nile by the mixture of the waters of the sea, deterred Sesostris from this project <sup>i</sup>. This motive might have some foundation. It is since believed, that they were assured, that the level of the Red sea was much higher than the lands of Egypt <sup>k</sup>. Some modern geographers are of the same opinion <sup>l</sup>. Others, at the head of whom we may place Strabo, think otherwise <sup>m</sup>. What is certain, is, say they, that the canal projected by many sovereigns of Egypt, has never been executed <sup>n</sup>.

The many canals which Sesostris caused to be made, were not the only works he undertook for the emolument of Egypt. The kings his predecessors were content to oppose the inundations of the Nile by banks which hindered the waters from spreading farther than need required. But these precautions were not sufficient. As the land of Egypt is flat and level, if it happened, that the Nile broke its banks, most of the towns and their inhabitants were exposed to be overflowed. To prevent this accident, Sesostris caused terrasses to be raised in many places, of a considerable height and breadth. He ordered the inhabitants of all the towns, to whom nature had not furnished the like ramparts, to leave them and go and build houses on the causeys, which he had caused to be made, to the end that they and their flocks might be sheltered from the floods <sup>o</sup>.

These towns raised with immense labours, and rising like

<sup>g</sup> Herod. l. 2. n. 108.    <sup>h</sup> Marsham, p. 376.    <sup>i</sup> Ibid.    <sup>k</sup> Ibid.

<sup>l</sup> Buffon, hist. nat. t. 1. p. 104. & 391.

<sup>m</sup> Strabo, l. 17. p. 1158.; Riccioli Almagest. t. 1. p. 728.; Fournier, hydrograph. l. 18. c. 9. p. 605.; Journal des scav. Fevr. 1668. p. 21. See also la rem. du P. Hardouin, ad Plin. l. 6. sect. 35. p. 341. note 4.

<sup>n</sup> See les mem. de Trev. Juillet 1705. p. 1257. &c.

<sup>o</sup> Herod. l. 2. n. 137.; Diod. l. 1. p. 66.

islands in the middle of the waters, formed, at the time of the inundation, the most beautiful, and, I dare say, the most uncommon sight that one can imagine. Egypt then changed into a large sea, offered to the view an immense extent of water interspersed with an infinity of towns and villages<sup>r</sup>. Though at this time it is reduced to a quite different state from what it was formerly, yet one still has the same prospect. All travellers speak with admiration of the picture which Egypt presents at the time of the inundation<sup>s</sup>.

The works I have given an account of, depend more or less on architecture; those which I have to speak of appertain more directly to that art. Sesostris did not only employ himself in works that might contribute to the security and conveniency of Egypt, he raised also many monuments to embellish and decorate his kingdom. This prince caused to be built in each town, temples in honour of the divinity that was particularly revered there<sup>t</sup>. That of Vulcan was the most remarkable. The stones which they used for the construction of that edifice, were of an enormous size<sup>u</sup>. But indeed this is all we can say of the magnificence of that temple. We know not what were the dimensions, the proportions, and the ornaments.

The tabernacle set up by the Israelites in the desert, may nevertheless give some ideas of the manner in which at that time the Egyptian temples were constructed. I believe really, that there must have been some relation between the taste which reigned in these edifices and the tabernacle\*. It is true, strictly speaking, this work ought not to be looked upon as a piece of architecture; it was only, to speak properly, a vast tent: this is the first idea it offers to the mind; but by reflecting on it more attentively, we shall perceive, that the tabernacle had a great relation with architecture. We ought to look upon it as a representation of the temples and palaces of the east. Let us recollect what

<sup>r</sup> Herod. l. 2. n. 97.; Diod. l. 1. p. 43.; Strabo, l. 15. p. 1014. l. 17. p. 1137.; Seneca, nat. quæst. l. 4. c. 2. t. 2. p. 750.

<sup>s</sup> Maillet, descript. de l'Egypte, lettr. 2. p. 70. <sup>t</sup> Diod. l. 1. p. 65. & 66.

<sup>u</sup> Herod. l. 2. n. 108.

\* This is also the sentiment of Father Calmet, t. 2. p. 391.



we have said before of the form of government of the Hebrews. The Supreme Being was equally their God and King <sup>t</sup>. The tabernacle was erected with a view to answer to that double title. It served at once for the temple and palace. The Israelites went there sometimes to adore the Almighty, and sometimes to receive the orders of their sovereign, present in a sensible manner in the midst of his people <sup>u</sup>.

I think then we ought to look upon the tabernacle as a work which God would have that the structure should have relation with the edifices destined in the east, whether for the worship of the gods, or the habitation of kings <sup>x</sup>. From these ideas we may say it was then the custom to ornament these monuments with columns variously worked and enriched. There were many in the tabernacle supported on bases of silver or copper, and surmounted with chapiters of gold and silver <sup>y</sup>. The shaft of these columns was of precious wood covered with plates of gold and silver <sup>z</sup>. The whole construction of the tabernacle presented, moreover, the model of an edifice regular and distributed with much skill. All the dimensions and proportions appear to have been observed with care and perfectly well adapted.

The inductions which we may draw from the description of this monument, are moreover the only lights that history affords on the architecture of the Egyptian temples for the ages we are speaking of at present. I shall speak more particularly of these edifices in the third part of this work. Let us return to Sesostris.

That prince further signalized his reign by the erection of two obelisks, which were cut with a design to acquaint posterity of the extent of his power, and the number of nations he had conquered <sup>a</sup>. These monuments were of

<sup>t</sup> See *supra*, b. i. ch. 2.

<sup>u</sup> And let them make me a sanctuary, that I may dwell amongst them. Exod. c. 25. v. 8.

<sup>x</sup> See Calmet, t. 2. p. 391. & 393.

<sup>y</sup> Exod. c. 26. v. 32. c. 27. v. 17.

<sup>z</sup> Exod. c. 26. v. 32. c. 27. v. 17.

<sup>a</sup> Diod. l. i. p. 67.

one piece of granite, and were an hundred and eighty feet high <sup>b</sup>. Augustus, according to the report of Pliny, transported one of these obelisks to Rome, and placed it in the campus Martius <sup>c</sup>. They pretend to have found it in our times <sup>\*</sup>.

A remark which we ought not to omit, is, that Sesostris did not employ any Egyptian in the construction of these difficult works of which I have just spoken. He only made the prisoners work whom he had brought from his expeditions <sup>d</sup>. To the end that posterity should not be ignorant of it, he took care to have ingraved on all these monuments, that no native of the country had ever put his hand to them <sup>e</sup>.

Of all the works of which I have spoken I see none more worthy of attention than the obelisks. According to Pliny, the idea of that species of monuments is due to the Egyptians. He says, that a king of Heliopolis called Mestres, was the first who caused one to be raised <sup>f</sup>. We are ignorant at what time this prince lived. Yet I believe him posterior to Sesostris, and even his successor. In reality, what Pliny reports of the motive which engaged this Mestres to build an obelisk, agrees very much with what other historians have related of the successor of Sesostris <sup>g</sup>. I presume then, that Pliny was mistaken, and

<sup>b</sup> Diod. l. i. p. 67.

<sup>c</sup> L. 36. sect. 14. p. 736.

<sup>\*</sup> Yet this presents us with a great difficulty. This obelisk, according to the measures they have taken, is only about 75 feet, instead of 180 which Diodorus gives to the monuments of Sesostris. See les mem. de Trev. Mai 1751. p. 979. But I doubt, 1. with many critics, whether this obelisk was one of those of which Diodorus speaks. We might say, in the 2d place, that supposing it the same work, the ravages of Cambyfes might so ruin these ancient monuments, that they must afterwards be diminished by repairing them. This last reason appears to me very plausible.

<sup>d</sup> Herod. l. 2. n. 108.

<sup>e</sup> Diod. l. i. p. 66.

Scripture remarks something like this in speaking of the buildings of Solomon. 2 Chron. c. 8. v. 9.

<sup>f</sup> L. 36. sect. 14. p. 735.

<sup>g</sup> Compare Pliny,  *loco cit.* with Herod. l. 2. n. 111.; Diod. l. i. p. 69.; Diod. orig. l. 13. c. 31. p. 159.



that we ought to look upon Sesostris as the first who raised obelisks \*.

But further, it is perhaps neither to one nor the other of these two princes that we ought to attribute the invention of that sort of monument. Diodorus speaks of a pyramidal spire erected by the order of Semiramis on the road to Babylon. It was, says he, of one stone of one hundred and thirty feet; each side of the base, which was squared, was twenty-five <sup>b</sup>. It should be then in Asia, not in Egypt, that obelisks took their rise.

Be that as it will, the Egyptian monarchs appear to have had a great taste for obelisks. I shall not stop to give the names of all the sovereigns who we know have raised them: we may see them in Pliny <sup>i</sup>. I will only speak here of the obelisks which deserve a particular consideration.

After the two obelisks of Sesostris, of which I have already spoken, we may place that which his son got raised. It was transported to Rome by order of Caligula. The vessel which this prince caused to be constructed for this enterprize, was the largest that had then been seen upon the seas <sup>k</sup>. All these obelisks nevertheless did not come near to that which Rameſſes raised near the palace of Heliopolis. This prince reigned, according to the calculation of Pliny, at the time of the taking of Troy <sup>l</sup>. Twenty thousand men were employed to work at this monument <sup>m</sup>. The greatest difficulty was to raise it on its base. To make the fact more marvellous, they have not omitted to adorn it with a tale. Rameſſes apprehended, that

\* This is also the sentiment of Marsham, p. 369.

<sup>b</sup> L. 2. p. 125. & 126.

<sup>i</sup> L. 36. sect. 14. &c.

<sup>k</sup> Ibid. p. 736. & l. 16. c. 40. p. 35.

<sup>l</sup> L. 36. sect. 14. p. 735. Marsham, p. 441. makes Rameſſes much more modern; but it is in consequence of an error into which that able chronologist has fallen with relation to Sesostris, whom he confounds with the Sezac of the scripture. As Marsham acknowledges Rameſſes for one of the successors of Sesostris, he ought consequently to have advanced his reign.

<sup>m</sup> Plin. *loco supra cit.* The text of Pliny in Father Hardouin's edition, makes 120,000 men.

that the machines which they had prepared were not capable of raising and supporting so unwieldy a mass. The means which this prince invented to oblige the workmen to use all their skill, were certainly most extraordinary; he caused his son, say they, to be fixed on the top of the obelisk. The life of this young prince, and of consequence the lives of the workmen depending upon the success of the enterprize, they took their measures so justly that they succeeded according to their wishes <sup>n</sup>.

We ought to look upon this obelisk as the most remarkable of all those spoken of in history. It is one of the most valuable monuments which now remain of Egyptian antiquity <sup>o</sup>. It was respected even by Cambyfes, at the time when that furious prince put all to fire and sword in Egypt, and who spared neither temples nor those superb monuments, which, entirely ruined as they are at this day, are still the admiration of travellers. After having made himself master of Heliopolis, Cambyfes gave up the whole town to the flames; but when he saw the fire gain the obelisk of Rameffes, he ordered it immediately to be extinguished <sup>p</sup>.

We have before seen, that, after the conquest of Egypt, Augustus got many obelisks transported to Rome; but he durst not touch this <sup>q</sup>. Constantine more hardy undertook the enterprize: After the example of Caligula he made them build a vessel of an extraordinary size, they had even already conducted it by the Nile to Alexandria <sup>r</sup>; but the death of this prince suspended the execution of his project: it did not take place till the time of Constans his son. The obelisk being brought to Rome, was placed in the circus with infinite labour and expence <sup>s</sup>. Afterwards it was

It was by means of this immense multitude of workmen, that the ancient people were able to raise in so short a time the vast edifices whose execution appears to us at this time so astonishing,

<sup>n</sup> Plin. *loco cit.*

<sup>o</sup> See Marsh. p. 431.

<sup>p</sup> Plin. *loco cit.*

<sup>q</sup> Ammian. Marcell. l. 17. c. 4. p. 160. & 161.

<sup>r</sup> Ibid.

<sup>s</sup> See Marsh. p. 432.



thrown down. It was to the care of Pope Sixtus V. that Rome is indebted for the re-establishment of this famous monument. What was most astonishing is, that this obelisk, as well as that of Augustus, was broke in many pieces; yet they found the means of repairing them without impairing their beauty. It was the famous architect Dominique Fontana whom they charged with the care of repairing them. He directed all the operations of that important undertaking. We know that it was not without a great number of machines and singular precautions, they were able to erect them \*.

The obelisks, without contradiction, are a species of monuments the most singular which now remain to us of antiquity. There have been found persons who, at the sight of these monstrous masses, have ridiculously imagined that nature had no part in them, that they were entirely the effect of art. Some have believed that the Egyptians had the secret of melting marble and stones in the same manner nearly that we run metals. These columns, these obelisks of one piece, and of an extraordinary height, give, say they, room to think that these pieces have been cast and run into moulds as we run a piece of metal.

Others have thought that the obelisks were a sort of factitious stone composed of different flints pounded, cemented, and afterwards incorporated by means of some gum sufficiently hard to bear the cutting and polishing. They alledge in proof of their sentiment, that, in the whole world, we cannot find at this time a quarry where we can see blocks of such a size. Further, add they, if one could find them, it would be impossible to draw them out, for example, a piece of the size of the obelisk of Ramesses, and still more impossible to transport it. They propose likewise other objections which I shall not stop to relate †.

Those who reason thus, shew plainly that they have not

\* See vita di Sisto V. da Greg. Leti, parte 3. l. 1. p. 4. &c. p. 22. &c.; see also Father Kirker, *de orig. & erectione obeliscorum*.

† See Maillet, description of Egypt, sect. 9. p. 39. & 40.; Shaw's voyage, t. 2. p. 82.; Mem. de Trev. Juill. 1703. p. 1218. & 1219.; Traité de l'opinion, t. 6. p. 608.; Diarium Ital. P. Montfaucon, c. 17. p. 247.

acquired much knowledge in the arts. With respect to the first, who have imagined that the obelisks had been melted and cast like pieces of metal; they are apparently ignorant that marble and stones are not fusible. There are only sands and flints that are so. Moreover, could we even suppose that the Egyptians had had in this particular some secret unknown to us, are these persons ignorant that the effect of fusion is to vitrify these sort of substances, and by consequence to change them? Instead of the monuments of marble which we now see, this secret could only have produced monuments of glass.

As to those who believe that the marble of the obelisks was only a species of factitious stone, an assemblage of flints united and incorporated with cement; the objection is more specious, but not more solid. Do they imagine it would be possible to form with mastic, pieces of the size equal to that of the obelisks, and of a hardness capable of resisting the injuries of so many ages as have passed since the erection of those monuments? We know, it is true, of these sorts of compositions able to bear the chisel, and even susceptible of polish. But experience has shewn that we have not yet found the art to make with mastic, a composition sufficiently hard and solid to resist the action of the sun in our climates, and by much greater reason in Egypt. Besides, it is not necessary to have recourse to all those expedients to explain the manner in which the Egyptians have procured themselves the enormous masses which served for the construction of their obelisks.

Pliny informs us, that these people got from the mountains of the Upper Egypt, the granite which they used \*. They have even discovered the quarry whence they presume these obelisks were cut. We there remark even at this day the matrices of these famous monuments. In that chain of mountains which bound Egypt on the west, and which run along the Nile towards the desert, we find divers sorts of marbles, and particularly of granite, the same which had been used for the obelisks. We still see in these places, say the tra-

\* L. 36. sect. 13. & 14. p. 735.



vellers, columns half cut, and other pieces of marble ready to be detached from the mountains<sup>y</sup>. The inspection of these quarries suffices to destroy the opinion of those who imagine that the marbles which the Egyptians used for their monuments, were a composition of which the secret is lost. These pieces came from the hands of nature; art had no other part but the working<sup>z</sup>.

As to the objections which they form on the impossibility of being able to cut such masses, they suppose little knowledge of the natural history of Egypt. The quarries from whence the obelisks were taken, have no resemblance to the quarries in our countries. They were not obliged to dig the earth, and from thence extract these marbles. They found them on the sides of that chain of mountains of which I have spoken<sup>a</sup>. They chose a place which was sloped, and nearly on a level with the highest rising of the Nile. They there cut a piece of marble of the height and thickness they judged proper. I imagine, that the Egyptians proceeded in this work, near by the same manner that we proceed at present among us. On a hill situated in Lower Normandy, we find immense blocks of granite equal with the surface. They cut and raised them easily by digging into the entire mass a trench of some inches depth, into which they afterwards drove, by force, wedges of iron which divided the stone almost as uniformly as if it had been separated with a saw. They have wrought pieces five and forty feet long, eighteen wide, and six thick<sup>b</sup>. This exposition suffices to make us comprehend with what facili-

<sup>y</sup> Observations de Belon, l. 2. c. 21. p. 210.; Maillet, descript. de l'Egypte, lettr. 8. p. 319. lettr. 9. p. 39. &c.; Granger voyage en Egypte, p. 76. & 77.; P. Lucas, t. 3. p. 159, &c.; Shaw's travels, t. 2. p. 81. & 82.; Rec. d'observations curieuses. t. 3. p. 158.

<sup>z</sup> See Belon, observat. l. 2. c. 21. p. 210.; Mem. de Trev. Juill. 1703. p. 1219.; Diar. Ital. P. Montfaucon, c. 17. p. 247. M. Guettard has discovered in many districts of France, banks of granite, from which we might get blocks fit for obelisks still more considerable than all those of the Egyptians. Acad. des sciences. ann. 1751. H. p. 11. 14. & 15.

<sup>a</sup> Plin. l. 36. sect. 14. p. 735.; Maillet, descript. de l'Egypte, p. 306.; Granger, p. 98.

<sup>b</sup> Acad. des sciences. *loco cit.* p. 15.

ty the Egyptians might have cut their obelisks. Accordingly the ancient authors who have spoke of them, have acknowledged, that the difficulty of removing and setting them on their base was, without comparifon, much more difficult than the cutting of them <sup>c</sup>.

The Nile was of great ufe to the Egyptians for transporting thefe enormous mafles. This river at its greateft height flows to the foot of the mountains where they cut the obelisks <sup>d</sup>. They drew a canal which ended at the place where the obelisk was laid, and which even paffed under the piece which they wanted to take away : for they took care that the breadth of the canal fhould be fo proportioned, that the obelisk fhould be fupported by its two extremities on the earth, and form a bridge. After having eftimated nearly what would be the weight of that mafs, they built, according to its weight, two floats which they put into the canal of which I have juft fpoken. They were conftituted in fuch a manner that the furface exceeded the height of the edge of the canal ; they loaded thofe floats with bricks to make them fink confiderably in the water, then they made it run under the obelisk : when they were certain of this, they took away the bricks with which they had loaded it. Thefe rafts being thus lightened, raifed themfelves to the furface of the canal, and took away the obelisk <sup>e</sup>. They contrived afterwards to conduct it by water as near as poffible to the place where they would have it erected. As Egypt was formerly cut with an infinity of canals, there were fcarce any places where they could not eafily convey thefe enormous mafles, whofe weight might have made any other fort of machines give way except thefe floats. We can fay nothing certain of the reft of thofe contrivances which they ufed to land them, to conduct them to the place where they were to be fixed, and to erect them on their bafe. The ancients have tranfmitted nothing to us on an object fo curious and fo important for mechanics <sup>\*</sup>.

Befides,

<sup>a</sup> Plin. l. 36. feét. 14. p. 735.

<sup>d</sup> Maillet, p. 319. *loc. cit.*

<sup>e</sup> Plin. l. 36. feét. 14. p. 735.

<sup>\*</sup> We have at prefent an effort of art ftill more furprising than the removing



Besides, we find that no other nation has ever been curious to imitate the Egyptians in their taste for obelisks: even the Romans do not appear to have regarded them. They contented themselves with transporting into their capital, some of these enormous masses, rather, without doubt, for the singularity than for the real beauty of these monuments.

What we have seen of the magnificence and the taste of the works executed by Sesostris, would make me believe, that this prince may very well have been the author of a great part of the ornaments of Thebes, that city so famous in antiquity. It is certain, that its foundation ascends to ages very remote<sup>f</sup>: but it must have been some time before it could attain that degree of splendor and magnificence of which the ancients speak. That interval, nevertheless, may not have been extremely considerable. At the time of the war of Troy, Thebes passed for the most opulent, and the best peopled city in the universe<sup>g</sup>. These considerations engaged me to place in the ages we are now running over, what I have to say of this famous capital of Egypt. The ancients are not agreed about the circumference of Thebes<sup>h</sup>. Homer gives it an hundred gates;

and erection of the obelisks. These are the two stones which form the pediment of the Louvre. They are 52 feet long, 8 broad, and weigh each more than 80 thousand weight. We may judge of the labour and pains that these two pieces must have cost cutting. They must have been drawn from the bottom of the quarry, have been conveyed by land near two leagues, and placed at a height more than 120 feet from the level of the ground. Yet it was not so much on account of their weight as their form, that these two stones have been so difficult to raise. In fact, though they were 52 feet long and 8 broad, they were at most only 18 inches thick. This form exposed them to be easily broken, if they had not been always equally supported during the time of their elevation. We may see in the translation of Vitruvius by Perrault, the precautions which must be taken to avoid all the inconveniences that might happen. p. 339. not. 4.

<sup>f</sup> See Marsh. p. 395. & 396.

<sup>g</sup> Iliad. l. 9. v. 381. &c.; Odyss. l. 4. v. 126. & 127. In comparison of the cities of Asia Minor and of Greece, which were then very small.

<sup>h</sup> By Cato's account, it was 400 stadia long. *Apud Steph. Byzant. voce Διοσπόλις*, p. 240.

Diodorus, l. 1. p. 54. says, that the circuit of Thebes was 140 stadia.

According to Strabo, l. 17. p. 1170. the ruins of that city took up 80 stadia in length.

Eustathius

gates<sup>i</sup>; an expression, which certainly ought not to be taken literally; but which, however, means a very large and powerful city. He adds, that Thebes was able to furnish twenty thousand chariots of war<sup>k</sup>; by which we may judge of the number of inhabitants which it contained. It must have been by so much the more considerable as the houses were four or five stories high<sup>l</sup>. Yet we shall never be persuaded, that it rose to that degree to which the Egyptians have made it amount. Ancient inscriptions say in effect, that this city had included within its walls to the number of seven hundred thousand fighting men<sup>m</sup>. P. Meia increasing the number farther, makes them amount to a million<sup>n</sup>. We easily perceive how much such exaggerations are out of the way and absurd<sup>\*</sup>: Herodotus only reckons forty-one thousand fighting men in all Egypt<sup>o</sup>.

Homer boasts much of the opulence of Thebes<sup>p</sup>: and this is a point about which all antiquity seem to be agreed. The ancient authors assure us, that no city in the world ever contained so much riches and magnificence, in gold, in silver, in ivory, in precious stones, in colossal statues, and in obelisks of one piece<sup>q</sup>. We may judge of this from a fact reported by Diodorus. He says, that Sesostris offered to the god whom they adored at Thebes, a ship, built of

Eustathius gives the greatest extent to this capital of Egypt, of all the ancients. He says, that it was 420 stadia long. Ad Dionys. Perieget. v. 248.

According to the scholium of Didymus, on Iliad. 9. v. 383. the city of Thebes was 3700 arures in surface. We know, from the report of Herodotus, that the arure was 100 Egyptian cubits complete, that is to say, ten thousand square Egyptian cubits; and the Egyptian cubit, which, by the confession of the greatest part of the learned, still subsists at this time under the name of *Derah*, without having received any alteration, is one foot eight inches,  $5\frac{8}{9}$  royal lines. Thus, the surface of the city of Thebes was from 2907825 to 2997826 square fathoms. That of the city of Paris contains, according to Delisle, 4100337; from whence it results, that ancient Thebes was only a little more than three fourths of Paris.

<sup>i</sup> Iliad. l. 9. v. 383.

<sup>k</sup> Ibid.

<sup>l</sup> Diod. l. 1. p. 54.

<sup>m</sup> Tacit. annal. l. 2. c. 62.

<sup>n</sup> L. 1. c. 9.

<sup>\*</sup> They must suppose from five to six millions of inhabitants in Thebes. They only reckon in Paris about six hundred and fifty thousand.

<sup>o</sup> L. 2. n. 164. &c.

<sup>p</sup> Diod. loc. cit.

<sup>q</sup> Ibid. l. 1. p. 55.



cedar, two hundred and eighty cubits long\*, covered on the inside with plates of silver, on the outside with plates of gold†.

There remain, in other respects, few particulars of the magnificence Thebes formerly had. Diodorus speaks of four temples which were distinguished above all the rest. The most ancient was, says he, a wonder in grandeur and beauty. This edifice was thirteen stadia about‡, and forty-five cubits high. Its walls were twenty-four feet thick. All the ornaments of this temple, both by the richness of the materials, and by the grandeur of the work, answered to the majesty of that edifice, which still subsisted at the time in which Diodorus was in Egypt§.

This is all we can collect from the ancients on the subject of Thebes. With respect to the modern travellers, they agree to say, that this city exhibits at present only a great heap of ruins¶. But they speak of many monuments which still remain in its neighbourhood. I think that it will not be troublesome to compare their accounts with what the ancients have said of the grand edifices built in the plains of Thebes.

Diodorus acquaints us, that it was in the neighbourhood of that capital, that they had raised those celebrated tombs of the ancient kings of Egypt, which nothing, as he has said, equalled in magnificence. The Egyptian histories make mention of forty-seven of these tombs. At the time of Diodorus, there only remained seventeen, of which many were then almost destroyed||. That historian has

\* Two hundred and eighty great cubits, are equal to four hundred and one feet six lines, French measure.

† That is, more than half a league.

‡ Diod. l. 1. p. 67. This fact appears amongst the most exaggerated.

§ Diod. l. 1. p. 55. It remains to know, if this temple was really the most ancient of all those which Thebes contained; and if this edifice had been brought at its foundation to the point of magnificence of which Diodorus speaks.

¶ P. Lucas, third voyage, t. 3. p. 148; Sicard, mem. des missions du Levant, t. 7. p. 159; Granger, voyage d'Egypte, p. 54.

|| L. 1. p. 56. about thirty years before Christ. If we believe Father Sicard, there still subsist ten, five entire, and five half ruined. *Mém. des miss. des Lev. t. 7. p. 162.*

preserved a description which an ancient Greek traveller had left of one of these mausoleums, a monument, which, I think, owed its construction to one of the successors of Sesostris. The prince of whom we speak was called Osymandes\*. We shall have occasion, in the following book, to examine into the epocha of his reign, which falls about the time of the war of Troy. Let us return to the description of his tomb.

At the entrance of this edifice appeared a vestibule of two hundred feet long and sixty-seven and an half high. The most rich marbles had been used in its construction. Afterwards was found a square peristyle, of which each side was four hundred feet long. Figures of animals, ill worked, but each of one stone, and sixteen cubits high, were in the place of columns, and supported the ceiling, made with stones which were twelve feet long. Its whole length was covered with stars of gold, designed on a ground of sky-blue. Beyond this peristyle, is found a second vestibule built like the former; but more adorned with sculptures. The eyes are there immediately struck with three colossal figures, made from one single block. The principal is that of the monarch who had built the monument. He is represented sitting. This statue passed for the largest colossus which they had in Egypt. It must have been at least fifty feet high\*. All this piece was, say they, less estimable for its enormous size, than for the beauty of the work, and the choice of the stone, which, in such a size, did not present the least defect or the least spot.

From this vestibule we passed into another peristyle, much more beautiful than the first which I have described. All the walls were loaded with a multitude of sculptures in niches, representing the military exploits of Osymandes.

\* Diod. l. i. p. 56.

\* They had only measured the foot, which was found to be a little more than seven cubits. The foot of a man is the sixth part of his height. So the statue of which we are speaking, must have been more than forty-two cubits, or sixty-three feet high, if Osymandes had been represented standing. But as he was represented sitting, we must abate a fifth for the length of the thighs, and there still remain more than  $33\frac{3}{5}$  cubits, or  $51\frac{2}{5}$  feet.



In the middle of this peristyle they had raised an altar of most beautiful marble, of surprising grandeur and immense workmanship. At the bottom, they had placed against the wall two statues, each of one block, twenty-seven cubits high. They represented persons sitting.

They went out of this peristyle by three gates, among which were placed the statues I have spoken of, to enter into a hall whose ceiling was supported by high columns. It much resembled an amphitheatre, and was two hundred feet square. This place was filled with an infinity of figures in wood, which represented a grand audience attentive to the decisions of a senate, taken up, as it seems, with administering justice. The judges, to the number of thirty, were placed on a bench much elevated, leaning against one of the fronts of the body of the building of which we speak.

From this place they passed through a gallery flanked on the right and on the left, with many cabinets, in which were seen represented on tables, all the different meats which could flatter the taste. In this same gallery, the monarch, author of the superb edifice of which I speak, appeared prostrate at the feet of Osiris, offering sacrifices to him. Another body of the building included the sacred library, near to which were placed the images of all the gods of Egypt, the king presenting to each the proper offerings. Beyond this library, and on the same line, they had raised a great hall, the entry of which contained twenty beds, on which the statues of Jupiter, Juno, and Osymandes were seen lying. They believed that the body of that monarch lies in that part of the edifice. Many buildings were joined to this last hall; and they had there placed representations of all the animals sacred in Egypt.

They ascended, lastly, to a place which formed, to speak properly, the tomb of the Egyptian monarch. There was seen a circle or crown of gold, a cubit in thickness, and three hundred and sixty-five in circumference. Cambyfes, when he pillaged Egypt, they say, took away this valuable piece.

v Diod. loco supra cit.

Such was, according to the ancient authors, the mausoleum of Osymandes \*, on which at present I shall make no reflection. All the modern travellers who have had occasion to visit the places where they presume that Thebes was built, attest to have seen in its neighbourhood many edifices, among which they remark, in spite of the injury and ravage of time, great resemblance with the monument which I have described. Here is what we read on this subject in Paul Lucas, who has taken, as far as one can judge, the ruins of a palace for those of a temple, an error common to him with almost all modern travellers.

“ Near Andera, a village, which I think was not far  
 “ distant from ancient Thebes, although situate on the  
 “ other side of the Nile †, we perceive the ruins of a pa-  
 “ lace the most spacious and the most magnificent that  
 “ can be imagined. This edifice is built wholly of gray  
 “ granite; the walls are all covered with bas-reliefs larger  
 “ than life ‡. The grand front of this palace offers at first  
 “ a vestibule supported with grand square pilasters of an a-  
 “ stonishing thickness. A long peristyle, formed by  
 “ three ranks of columns, that scarce eight men could  
 “ fathom, extend along the two sides of the vestibule, and  
 “ support a ceiling made of stones of six or seven feet in  
 “ breadth, and of an extraordinary length. This ceiling  
 “ seems to have been originally painted: there we yet  
 “ perceive the remains of colours which time has spared.  
 “ A long cornice runs above all the columns of this edifice.

\* Let us remark that Diodorus has taken all this recital from Hecateus, a writer absolutely decried, even among the ancients, for his lies and his exaggerations.

† Strabo acquaints us that the boundaries of Thebes extended on both sides of the Nile, l. 17. p. 1170.

Father Sicard places the tombs of the kings of Thebes to the west of the Nile, on the same side on which the village of Andera is situated. *Mém. des Miss. du Levant*, t. 7. p. 161. 162.

‡ Paul Lucas has either expressed himself very ill in using the term *bas-reliefs* to design the sculptures of the palace of Andera, or this monument is not of great antiquity; for the ancient inhabitants of Egypt never knew to work *bas-reliefs*: they only knew how to engrave; this is a fact which all the monuments of ancient Egypt, joined to the testimony of all the ancient writers, do not permit us to doubt of.

“ Each



“ Each is mounted with a chapiter composed of four wo-  
 “ mens heads dressed very singularly and back to back.  
 “ These four faces resemble very much the manner in  
 “ which they represent the two heads of Janus: their  
 “ thickness is proportioned to the size of the columns  
 “ which support them. These four heads are, moreover,  
 “ crowned each with a cube about six feet which supports  
 “ the ceiling. This sort of cornice which runs all along the  
 “ peristyle, is of a very singular construction: on the mid-  
 “ dle of the portico, which serves for an entrance to the  
 “ whole edifice, are seen two large serpents twisted toge-  
 “ ther, whose heads rest on two large wings extended on  
 “ both sides.

“ From this vestibule you immediately enter into a large  
 “ square hall, where we see three doors which lead to dif-  
 “ ferent apartments: these first apartments lead to o-  
 “ thers alike supported by many large columns. The roof  
 “ of the edifice is a terrace; and to judge of the size, it  
 “ suffices to say the Arabians had formerly built upon it  
 “ a very large village of which we still see the ruins\*.  
 “ We cannot, however, exactly determine of how many  
 “ bodies of building this edifice was composed; for we  
 “ find, at some distance from the front, a grand  
 “ building which appears to have been the entrance: it  
 “ is more than forty feet high. Thirty paces from this we  
 “ meet, on each side, with two other buildings whose gates  
 “ are almost fallen to ruins. We there still remark many  
 “ apartments.” This monument, as represented by Paul  
 Lucas, appears to have much resemblance with the mau-  
 soleum of Osymandes.

Paul Lucas is not the only one who has spoken of  
 this superb edifice: M. Granger, a traveller, whose ex-  
 actness and discernment I have already had occasion to  
 commend<sup>2</sup>, has made a description, which, although in-  
 finitely more exact and much more circumstantial, yet differs

\* I suspect great exaggeration in this fact.

<sup>2</sup> Third voyage of Paul Lucas, t. 3. p. 37. &c.

<sup>3</sup> Supra, chap. i. p. 90.

very little from that we have just read : he thinks that this edifice is a temple of Isis.

“ The first object,” says he, “ which offers itself to our view is a portico of sixty feet high, thirty-six feet broad, and seventy-one thick, embellished with a beautiful cornice, and a fillet goes round it; below which and immediately over the gate, which is twenty feet high and ten wide, we see a sort of escutcheon composed of a globe, supported by two kind of eel pouts, placed on an azure field in the manner of two extended wings. This portico is all covered from the top to the bottom with hieroglyphic inscriptions \*. From this gate we enter into a very spacious court full of the remains of columns: opposite to the temple, which is in the middle of this court, we find twelve other pillars standing, which support the rest of the ceiling.

“ The front of the temple is 120 feet long, 82 wide, and 70 high : the back part 170 feet long, 108 broad ; and the height is the same with that of the front. The walls without are covered from the top to the bottom, with the Egyptian divinities in bas relief, and hieroglyphic characters ; a most beautiful cornice goes round the whole : eight lions heads form gutters.†

“ We immediately enter into a grand hall, which is 112 feet long, 60 high, and 58 broad. The ceiling is supported by six rows of four pillars each. The shaft of these columns is 52 feet, and their circumference 23 : the chapiters of these columns are formed by four women heads, with their backs to each other. The walls of that hall are covered with an infinity of figures of animals, of Egyptian divinities, and hieroglyphic characters. The ceiling, of which the stones are each 18 feet long, 7 broad, and 2 thick, is painted in fresco, and the colours are still very lively.

“ From this hall we pass into a large square hallon, whose ceiling is supported by 6 columns, 3 on each side, of

\* This means engraving.



“ the same form and proportion as the preceding ones,  
 “ only a little larger. This hall is 42 feet by 41.

“ This same hall leads to four chambers. The first is  
 “ 63 feet by 18; the others 43 feet by 17. The walls  
 “ of these chambers are painted and covered with inscrip-  
 “ tions and hieroglyphics.

“ From the last chamber, we enter into a vestibule  
 “ of 12 feet long, and 3 wide, which leads us to wind-  
 “ ing stairs, by which we ascend the terrafs. We there  
 “ find a very dark chamber, 18 feet square, and 9 high,  
 “ built on the ceiling of the grand hall: it is equally en-  
 “ riched with many figures cut in bas relief. We see on  
 “ the ceiling of that chamber, the figure of a giant in re-  
 “ lievo, whose arms and legs are extended <sup>a</sup>.”

I might add to these relations that of Pococke: according to his opinion, the monument of Osymandes subsists at present almost entire. He says, he has seen and measured it <sup>b</sup>: but his recital is so diffuse, so obscure, and so conjectural, that we can obtain no satisfaction from it. Father Sicard believed likewise, that he had found the mausoleum of Osymandes <sup>c</sup>: but we have now no complete relation of that illustrious traveller. There now only remains an account too abridged and superficial to instruct and satisfy the curiosity <sup>d</sup>.

Let us now relate all that concerns the other antiquities which they find still in the neighbourhood of Thebes. I am going to begin by transcribing what has been said by two missionaries who visited those superb ruins towards the end of the last age. They speak of the monuments which subsisted in the neighbourhood of Luxor <sup>e</sup>, a village which they presume to have been built on the ruins of Thebes <sup>f</sup>.

“ I have counted,” says one of these travellers, “ about 120  
 “ columns in one single hall whose walls were covered with  
 “ bas reliefs and hieroglyphics from the top to the bottom. I

<sup>a</sup> Granger, voyage d’Egypte, p. 43. &c.

<sup>b</sup> Description of the east, Lond. fol. vol. 1. p. 139.

<sup>c</sup> Mem. les missions du Levant, t. 7. p. 161. <sup>d</sup> See *ibid.*

<sup>e</sup> Relat. au voyage du Sayd, par les PP. Protais, & Charles-François d’Orleans, mission. dans la collection des voyages, publiés par Thevenot, t. 2.

<sup>f</sup> Granger, p. 54.

“ have there found many figures of marble as high as three  
 “ persons, and two particularly of 56 feet high, although  
 “ they were sitting on chairs. Two other statues of women  
 “ coifed singularly with globes on their heads, measured  
 “ twelve feet from one shoulder to the other.” The same  
 traveller afterwards speaks of another edifice, which the  
 tradition of the country would have had formerly to have  
 been the residence of a king.” “ We cannot,” says he,  
 “ doubt much of this even before we enter into it: this palace  
 “ shews itself by many avenues formed by rows of sphynxes,  
 “ the head turned to the inside of the alley. These figures,  
 “ which are each twenty-one feet high, are distant from  
 “ each other about the space of two paces. I have walked,”  
 continues our traveller, “ in four of these avenues, which  
 “ ended at so many gates of the palace. I know not whether  
 “ there were any more, because I only made half the circuit  
 “ of that edifice, which appeared extremely spacious. I  
 “ counted 60 sphynxes, in the length of an alley, ranged op-  
 “ posite to an equal number, and 51 in another. These a-  
 “ venues are about the length of a mall. The gates of this  
 “ palace are of a prodigious height covered with admirable  
 “ stones. That alone which forms the entablature, is 26½  
 “ feet long, and broad in proportion. The statues and the  
 “ figures in bas relief which this palace contains, are in very  
 “ great numbers \*.”

The same traveller adds, that the frontispieces of the  
 temples which he has had occasion to see in that place were  
 not rich in architecture. Yet he saw temples so spacious, that  
 he believes, three thousand persons might be ranged with  
 ease on their roofs. He observes, lastly, that all the figures  
 in bas relief which decorated that monument, were only  
 in profile. But for the rest, these palaces were so ruined  
 and in such disorder, that one could know nothing of their  
 distribution nor of their arrangement.

\* I think that this edifice must have been a temple, and not a palace.

I remark a very great resemblance with the description that Strabo gives us  
 of the Egyptian temples. l. 17. p. 1158. & 1159.



Paul Lucas, who boasts also of having visited these ruins, speaks in the same manner in his first voyage : or, to speak more properly, he seems only to have copied the relation I have just now quoted \*. I therefore think I ought not to dwell upon it. I go to what he has said of another place situated in the neighbourhood of Thebes.

“ Near the village of Hermant, we see the ruins of a most  
 “ grand and most spacious edifice : we perceive on all sides  
 “ an immense number of stones and columns of the richest  
 “ and most beautiful marble. The columns which remain  
 “ still standing, are of a size that nothing can equal : they  
 “ are all covered with figures and hieroglyphics : their cha-  
 “ peters adorned with foliages, are of an order of archi-  
 “ tecture different from all those which Greece and Italy  
 “ have transmitted to us. There remains standing one part  
 “ of the building, whose covering is formed by five stones  
 “ twenty feet long by five, and two feet eight inches thick.  
 “ This roof is built in a plat-form. We see near it two co-  
 “ lossal figures of granite marble which are each more than  
 “ sixty feet high <sup>b</sup>.”

M. Granger also speaks of these different monuments, but in such a manner as to make us think, that he has visited them and seen them with his own eyes. But yet I shall not stop to relate what he says of the ruins of Luxor. His recital in that respect differs very little from the relation of the two missionaries, and that of Paul Lucas : I shall only take notice of some monuments, which in my opinion no traveller before him ever mentioned.

He speaks of a magnificent palace of which we see the ruins a league and a half from Luxor, “ We enter at first  
 “ into a court which is 162 feet wide and 81 long.  
 “ The front of the palace is 180 feet, and 36 high ; having  
 “ on each of its sides a column of granite of the Corinthian  
 “ order. The gate is ten feet thick, eighteen high, and  
 “ eight wide : we go from that gate to another court,  
 “ which is 56 feet square, and from that into another filled

\* Voyage du Levant, t. 1. p. 110. & 111.

<sup>b</sup> Troisième voyage, t. 3. p. 17. & 22. <sup>i</sup> See p. 54. &c.

Father Sicard speaks of it also in the same terms, *loco supra cit.* p. 160.

“ like

“ like the preceding ones with the ruins of columns. We  
“ see on the side of it many chambers which are gone to  
“ ruin, and whose walls are covered with hieroglyphics, and  
“ human figures of both sexes: at the bottom of this court,  
“ we see two gates, the one large, and the other small;  
“ this last conducts us to five very dark chambers, in one  
“ of which is a tomb of red granite seven feet long, three  
“ wide, and three and an half high. The great gate leads  
“ to a court, where we see the front of the body of a house,  
“ which is 180 feet wide and 170 high: the gate, which is  
“ placed in the middle, is thirty feet thick, twenty high, and  
“ ten wide; this front is built of large square stones. We  
“ then enter into a court which is 112 feet square; we  
“ there see, to the left, four columns of white marble stand-  
“ ing, and on the right, three chambers which are gone to  
“ ruin. From this court we enter into a hall which is 112  
“ feet wide and eighty-one deep: on two sides and the  
“ bottom, runs a gallery. That at the bottom is formed  
“ by a rank of eight large columns eight feet diameter, and  
“ the second rank of six large square pillars which support  
“ the plat-form. The side-galleries are only formed by a  
“ range of four columns like to the former, on which is  
“ laid a similar plat-form.

“ It seems by the pedestals, and by the chapiters scattered  
“ in the middle of this hall, and by the arrangement of ten  
“ columns of the *Corinthian* order, whose shafts are of one  
“ piece, there have been three different ranks of nine each:  
“ their diameter is three feet and their height thirty.” This  
traveller describes besides many more monuments; but  
they are not worthy of particular attention.

One very important observation to be made on the re-  
citals of M. Granger, is, that he says he has seen columns  
of the *Corinthian* order, and even the composite order\*,  
in most part of the edifices of which he has given a de-  
scription. We know, that the architecture of the ancient  
Egyptians had no resemblance either to that of the Greeks

\* P. 38. 39. & 58.



or to that of the Romans. This reflection would lead us to think, then, that the monuments I have just mentioned, ought not to be attributed to the ancient sovereigns of Egypt. We know in reality, that the Ptolomeys and the Roman emperors successively adorned Egypt with very numerous and very magnificent monuments: these perhaps are the only ones which subsist at present. With respect to the mixture of the Egyptian, Greek, and Roman architecture, that we there remark, it is easy to give a reason for that irregularity, by admitting, that these works, although constructed by the Greeks and the Romans, must always have had a tincture of the Egyptian taste and genius. We might further remove this difficulty which I have proposed, by saying, that the Ptolomeys and the Roman emperors had an attention to repair many of the ancient edifices of Egypt. This is even a fact which appears sufficiently confirmed by the inscriptions reported by the modern travellers<sup>1</sup>. Therefore, this mixture of Egyptian, Greek, and Roman architecture, has nothing surprising in it. Nothing but an exact and judicious examination can enable us to distinguish among the Egyptian antiquities, what might have been the work of ancient times from what appertains to the more modern ages. We must have seen the monuments in question ourselves, or at least have been able to have judged from the report of some intelligent and unprejudiced persons, qualities which appear to have been wanting in all, or a great part of the travellers whom I have cited, except M. Grainger.

I shall say nothing at this time of Memphis. There is great appearance, that in the ages we speak of, this city either did not exist, or at least did not deserve any attention. Homer, who speaks of Thebes with the highest encomiums, does not even name Memphis. This observation has not escaped Aristotle<sup>m</sup>; and the consequence which he draws from it, is so much the more just, as we cannot go to Thebes

<sup>1</sup> See Paul Lucas, *loco citat.* p. 33. 34. 35. & 41. 42.; Granger, p. 42. 43. 53. 84. 85.; Sicard, *mem. des missions du Levant*, t. 7. p. 43.

<sup>m</sup> *Meteorol.* l. I. c. 14. t. I. p. 547.

without passing by Memphis. Homer having been informed of the grandeur and magnificence of Thebes, necessarily must have known that of Memphis, which was much easier of access than Thebes. This reason appears to me decisive, and makes me believe, that they did not begin to speak of Memphis till after the age of Homer.

The same reason engaged me also not to speak of the pyramids, those famous monuments which have rendered Egypt for ever celebrated. I think their construction posterior to the epoch we are at present running over \*.

## A R T I C L E II.

### *Of the state of architecture in Asia Minor.*

Asia, in the present times, offers us no object of architecture which deserves our attention. Yet we cannot doubt, but the art of building was there sufficiently cultivated; but we want lights of the taste and skill which reigned at that time in the edifices of the eastern people. The ancient authors supply us with few resources in this matter: the facts which they report, are not sufficiently explained, nor sufficiently circumstantiated. They are wanting in those details, which alone could instruct us in the taste and manner of building of each age and of each nation.

Homer, for example, in speaking of the palace of Priam, says, that it had at the entrance fifty apartments well built, in which the princes his children lodged with their wives. At the bottom of the court, there were twelve other apartments for the sons-in-law of that monarch †: we farther see, that Paris had built for his particular use a very magnificent lodging ‡. These facts prove, that, at the time of the war of Troy, architecture must have been cultivated in Asia Minor; but they do not instruct us of the taste in which they constructed those edifices I have just mentioned. We cannot see in what their magnificence and beauty consisted. Homer

\* See part 3. book 2. chap. 2.

† Iliad. l. 6. v. 242.; ibid. v. 315.      ‡ Ibid. v. 313. &c.



only remarks of the palace of Priam, that it was surrounded with porticoes, the stones of which had been worked with care<sup>1</sup>. He says much the same of that of Paris<sup>2</sup>. But we shall see in the article of the Greeks, that we have now no idea of what Homer intended by the word which we commonly translate by that of portico. We shall further see, that that poet probably knew nothing of any of the orders of architecture. He never speaks of the embellishments or external ornaments of buildings. I think therefore, that the magnificence of the palaces consisted at that time rather in their vast extent, than in the regularity and the decoration of their architecture.

I further do not see, that one can draw any light from the description which the same poet gives of the palace of Alcinous<sup>\*</sup>. It is to be presumed that Homer has tried to put there all the magnificence known in his time: he might have taken for a model the most beautiful edifices he had ever seen. Yet we remark nothing in the description of the palace of Alcinous, which has a direct relation to the beauty and magnificence of architecture. The elegance and the decoration of that edifice consisted solely in the richness of the materials, and that of the interior ornaments. The poet says that the walls of the palace and the threshold of the doors were of solid brass<sup>†</sup>. An entablature of sky-blue went quite round the building: the doors were of gold, the chambranles of silver, and the floors of the same. A cornice of gold went round the apartments.

Homer then describes the statues and other interior ornaments which decorated the palace of Alcinous: but for the rest he says nothing which denotes an edifice estimable on the score of architecture. The beauties of that art, as far as we can judge, were very little known in

<sup>1</sup> Iliad. l. 6. v. 243.    <sup>2</sup> Ibid. v. 314.

<sup>\*</sup> See the dissertation, where I explain the reasons for which I think that the isle of the Phaeacians must belong to Asia, *supra*, chap. 1.

<sup>†</sup> What Homer says of the thresholds of brass is not a pure imagination of the poet's; this custom is attested by many authors. Virgil. *Æneid.* l. 1. v. 448.; Paus. l. 9. c. 19. p. 748.; Suid. *υπο Απτιπετρον βήματος*, t. 1. p. 229.

Homer's time. I shall further have occasion to return to this subject in the article of Greece, and to treat it more extensively.

## C H A P. IV.

*Of Metallurgy.*

**I**F there could remain some doubts on the rapidity of the knowledge which many nations have had in metallurgy, the facts which I am going to relate would put an end to them, and dissipate them entirely. We see the Israelites execute, in the desert, all the operations which concerned the working of metals: they knew the secret of purifying gold<sup>r</sup>, the art of beating it with a hammer<sup>s</sup>, that of throwing it into fusion<sup>t</sup>, and in a word, to work it in all the possible ways. The scripture indeed remarks, that God had presided over most of the grand works relative to his worship<sup>u</sup>. But independent of these marvellous productions, it is certain that they must have had among the Israelites, many very skilful and very intelligent artists in metallurgy. The golden calf, which that ungrateful and fickle people erected as an object of their adoration, is an evidence equally striking of their perfidy towards God, and of the extent of their knowledge in the working of metals. This operation supposes great skill and intelligence. The long stay of the Hebrews in Egypt had enabled them to instruct themselves in the necessary processes to succeed in such an enterprise.

The Egyptians as, I have insinuated in the first part of this work, had made, even in the earliest times, critical inquiries and experiments in metals. The erection of the golden

<sup>r</sup> Exod. c. 25. v. 31. & 36.

The vulgate translates all the passages in this chapter, where gold is mentioned, by *very pure gold*. But, following the Hebrew text, it means gold *purified*, for the verb is always in the participle.

<sup>s</sup> Exod. c. 25. v. 31. & 36. <sup>t</sup> 1b id. c. 32. v. 4.

<sup>u</sup> Ibid. c. 31. v. 1. c. 35. v. 31.



calf is not the only proof with which the scripture furnishes us: what we there read, with regard to the destruction of that idol, deserves infinitely more attention. The scripture says Moses took the golden calf, burnt it, reduced it to powder, and afterwards mixed that powder with water which he made the Israelites drink \*. Those who work in metals are not ignorant, that, in general, this operation is very difficult. Moses probably had learned this secret in Egypt. The scripture remarks expressly, that he had been brought up in all the wisdom of the Egyptians †; that is to say, that Moses had been instructed in all the sciences which these people cultivated. I think then that at that time the Egyptians knew the art of performing this operation in gold, an operation of which, at the same time, it is necessary to shew the process.

The commentators are much troubled to explain the manner in which Moses burnt and reduced to powder the golden calf; the most of them have only given vain conjectures, and such as are absolutely void of all probability. An able chymist has removed all the difficulties that can be formed about this operation. The means which he thinks Moses has used, is very simple. Instead of tartar which we use for such a process, the legislator of the Hebrews has used natron, which is very common in the east, and particularly near the Nile ‡. What the scripture adds, that Moses made the Israelites drink this powder, proves that he knew perfectly well the whole force of its operation §. He would aggravate the punishment of their disobedience. One could not invent a way which would render them more sensible of it: gold made potable by the process which I have mentioned, is of a detestable taste \*.

We ought farther to look upon as a mark of the rapid knowledge which many people had acquired in the art of working metals, the custom which was very ancient of using

\* Exod. c. 32. v. 20.

† Acts, c. 7. v. 22.

‡ Stahl, vitul. aureus, in opusc. chym. phys.-med. p. 585.

§ See les mem. de l'acad. des scienc. ann. 1733. mem. p. 315.

\* It approaches to that of magistery of sulphur. See Senac, n. cours de chymie, t. 2. p. 39. & 40.

tin in many works: the manufactory of this metal may be ranked among the most difficult processes in metallurgy. It is yet certain that in the ages we are speaking of, they knew perfectly the art of preparing and using tin. The testimonies of Moses <sup>b</sup>, and Homer <sup>c</sup>, do not permit us to doubt of it.

I could cite many other facts which equally mark the progress that the Egyptians and many other nations had already made in metallurgy: the sacred story on one side, and the profane writers on the other, would furnish me with abundant proofs; but I reserve this detail for the following chapter, where I shall treat particularly of gold work.

## C H A P. V.

### *Of Sculpture, Gold work, and Painting.*

**W**E cannot doubt that most of the arts which relate to design, had been greatly cultivated in the ages we are at present running over. Embroidery, sculpture, engraving of metals, and the knowledge of throwing them into fusion to make statues, were well known to the Egyptians, and many other people of Asia. I shall attend less to report the proofs, than to examine the taste which then took place in these sort of works.

## A R T I C L E I.

### *Of Sculpture.*

**I**T appears that the Egyptians had had at all times a great taste for colossus's and gigantic figures. We see the marks of it in most of the monuments erected by Sesostris. History says, that this Egyptian monarch caused to be placed before the temple of Vulcan his statue, and that of the queen

<sup>b</sup> Numb. c. 31. v. 22.

<sup>c</sup> See *infra*, art. 2.



his wife. These pieces, which were of one stone, were 30 cubits high<sup>a</sup>. The statues of his children, to the number of four, were not much less considerable. They were 20 cubits high<sup>c</sup>. These facts are more than sufficient to prove the taste that the Egyptians had for colossus's. I shall have occasion in the sequel of this work to return again to this article.

As to the part of design, I have already mentioned it in the preceding books<sup>f</sup>. I do not therefore think it necessary to insist on it at present. I reserve for the third part of this work some particulars of the manner in which these people executed their colossus's. I shall add at the same time some reflections on the taste and the practice of the Egyptian school.

I know not in what class to range a very singular monument which an ancient author saith had been executed by the orders of Sesostris. This is the description, such as Clemens Alexandrinus reported after Athenodorus<sup>g</sup>.

This author says, that Sesostris, having brought from the countries which he had travelled over, many able workmen, ordered the most skilful of them to make a statue of Osiris. This artist used in the composition all the metals and all the species of precious stones which were then known; but, above all, he put into it the same perfume with which they had, say they, embalmed the bodies of Osiris and Apis. He had given to the whole work a sky-blue colour. Each may form on the arrangement of the different matters what conjectures he pleases, by supposing, nevertheless, the reality of the fact, which to me appears improbable.

There remain very few lights on the progress and state of sculpture in Asia. It is certain, that, near the same ages, this art was there in much use. The Israelites had cast the golden calf; Moses had placed on the two extremities of the ark of alliance two cherubims of gold<sup>h</sup>. Homer speaks of a statue of Minerva much revered among the Trojans<sup>i</sup>.

<sup>a</sup> Diod. l. 1. p. 67.

<sup>f</sup> See part 1. book 2.

<sup>h</sup> Exod. c. 37. v. 7. &c.

<sup>c</sup> Ibid ; Herod. l. 2. n. 107.

<sup>g</sup> Coh. art. ad Gent. . p. 43.

<sup>i</sup> Illad. l. 6. v. 302. &c.

He places in the palace of Alcinous, statues of gold, representing young people who carried torches to give light during the night<sup>k</sup>. At the time of Pausanias they saw still in the city of Argos, a Jupiter in wood which was said to have been found in the palace of Priam when Troy was taken<sup>l</sup>. These facts give us sufficiently to understand that sculpture was at that time much in use in Asia; but they do not instruct us in the taste in which they made these statues.

Moses does not teach us any thing touching the form of the two cherubims which covered the ark, only that they had extended wings one opposite to the other, and their faces turned fronting each other<sup>m</sup>. This loose and uncertain description has given room to commentators to represent the cherubims differently. Each has formed a particular idea: I shall not trouble the readers with the detail.

We are not more assured as to the form which the golden calf had. Yet there is great reason to think, that this idol had much resemblance to that of the ox Apis so revered by the Egyptians. And I should think in consequence that it had a human figure with the head of an ox. There still remain at this time many of these Egyptian representations. If the golden calf was executed in the taste of these models, we might be certain that this piece had nothing estimable on the score of elegance, and the correctness of design.

With respect to the statue of Minerva which is spoken of in the Iliad, Homer does not characterise the design in any manner. He does not even tell us of what it was made. We can only conjecture that the goddess was represented sitting. On a very remarkable occasion, Homer represents the Trojan ladies going in form to put a veil over the knees of that statue<sup>n</sup>.

As to the Jupiter found in the palace of Priam, Pausanias who had seen it, has given us no description of it. He only

<sup>k</sup> Odyss. l. 7. v. 100.

I have already explained for what reasons I have placed the isle of the Phaeacians in Asia, p. 84.

<sup>l</sup> L. 2. c. 24. p. 165. <sup>m</sup> Exod. loco cit.

<sup>n</sup> Iliad. l. 6. v. 303. See also Strabo, l. 13. p. 897.



observes, that the statue had three eyes, one of which was in the middle of the forehead °.

Although the authors which I have just mentioned, have not been explicit on these pieces of high antiquity, I believe we may say that all these works were of a very middling taste, and entirely destitute of elegance and agreeableness. I am not reduced to simple conjectures to support this sentiment.

It is more than probable in reality, that the statue of Minerva of which Homer speaks, was no other than the Palladium. We learn from Apollodorus, that this image was executed in the taste of the Egyptian statues, having the legs and thighs joined together †. The Palladium must have been by consequence a sort of unformed and gross mass, without attitude and motionless.

## A R T I C L E II.

### *Of Gold work.*

**O** Pulence, and luxury which is the consequence, have given birth to gold work. Pomp and effeminacy had contributed to perfect this art, whose origin, as we have seen in the first part, ascended to very remote ages. The enumeration of all the facts which prove how much the works in gold were common in the ages we are at present busied in, would engage us in infinite details: this of all the arts which have relation to design, is that which seems to have been most cultivated. Let us chuse some proper subjects to make known the progress of gold work, and find out the objects which can give us an idea of the point of perfection to which that art was come at that time in Egypt and in Asia.

The scripture acquaints us, that the Israelites, the moment

° L. 2. c. 24. p. 165,

† L. 3. p. 180.

It is in this sense that we ought to understand the expression *συμβέβηκος*, which Apollodorus uses, as Scaliger, Kuster, and many other critics have proved.

they went out of Egypt, borrowed a large quantity of vases of gold and silver of the Egyptians <sup>a</sup>. This fact shews that gold work must have been then much cultivated among these people. To the testimony of Moses we may join that of Homer. The poet makes mention in the *Odyssey*, of many presents which Menelaus had received in Egypt. They consisted of different works in gold, the taste and workmanship of which supposed great address and skill. The King of Thebes gave to Menelaus, two large silver tubs, and two beautiful tripods of gold. Alcandra, wife of this monarch, made a present to Helen of a gold distaff, and of a magnificent silver basket, the edges of which were fine gold and elegantly wrought<sup>†</sup>. This union, this mixture of gold with silver appears to me worthy of remark. The art of soldering these metals depends on a great number of sciences. This is a proof that the Egyptians had been used a long time to the working of metals. We perceive also in the design of this basket a sort of taste and a particular kind of finishing.

We ought to refer also to the Egyptians that great quantity of trinkets which the Hebrews were provided with in the desert. It is said that they offered for the making of the works destined to divine service, their bracelets, their earrings, their rings, their clasps; without counting the vases of gold and silver <sup>†</sup>. Moses made all these trinkets be melted, and converted them to different works proper for the worship of the Almighty. The greatest part of these works were gold, and among them they had pieces of great execution and highly finished workmanship. A crown of gold entirely surrounded the ark of alliance<sup>†</sup>. The table of shewbread was adorned with a border of open chased gold work<sup>‡</sup>. The chandelier of seven branches appears to me above all worthy of much attention. The description which the holy scripture makes of it, gives us an idea of a very ingenious and well-composed design<sup>\*</sup>. This piece considerable in it-

<sup>a</sup> Exod. c. 12. v. 35.

<sup>†</sup> *Odys.* l. 4. v. 125. &c.

<sup>†</sup> Exod. c. 35. v. 22.

<sup>‡</sup> *Ibid.* c. 25. v. 11.

<sup>‡</sup> *Ibid.* v. 24. & 25.

<sup>\*</sup> *Ibid.* v. 31. &c.



self, was of very fine gold beat by the hammer<sup>x</sup>. I pass over in silence a number of other works equally estimable for the matter, and for the workmanship which must have been very delicate.

With respect to Asia, gold work was at that time as much cultivated as in Egypt. Profane history furnishes us with sufficient testimonies which prove that many people in Asia had made a great progress in engraving, in chasing, and generally in whatever concerned the working of metals. The greatest part of the works cried up by Homer came from Asia<sup>z</sup>. We there remark armours, cups, and vases of a very elegant design and a very agreeable taste. Herodotus speaks also with great encomiums of the richness and magnificence of the throne on which Midas distributed justice. This prince made a present of it to the temple of Delphos. 'Tis true Herodotus has not left us a particular description of this throne. But as he assures us that the work deserved to be seen<sup>a</sup>, we may conjecture that the workmanship was highly finished. I shall observe lastly, that Homer gives in general to the nations of Asia, arms much more ornamental and much more rich than to the Greeks. Those of Glaucus, and of many other chiefs of the Trojan army, were gold<sup>b</sup>. The attention of Homer to cry up these circumstances, proves not only the opulence and luxury of the Asiatics, but also the great knowledge which these people had at that time in works of gold, and the arts which depend on it.

Although my intention was to avoid details, yet I cannot dispense with myself from making some reflections on the shield of Achilles, a work, the idea of which appears to me admirable, and which would certainly produce a high effect if it was executed. Many reasons engaged me to speak of it under this article. Homer could not take the idea of such a work, but from some models which must have come near it. He has then only followed and embellish-

<sup>x</sup> Exod c. 35. v. 31. & 36.

<sup>z</sup> See Iliad. l. II. v. 19. l. 23. v. 741. &c.; Odyss. l. 4. v. 6. 5. &c. l. 15. v. 414. & 459. &c.

<sup>a</sup> L. 1. n. 14.

<sup>b</sup> Iliad. l. 6. v. 236. l. 2. B. v. 376. l. 10. v. 439.

ed an art invented before the war of Troy. This poet, as I think I have already remarked, is very exact in not giving to the people of whom he speaks any knowledge that did not belong to the ages in which he places them. A more faithful historian than Virgil, he does not anticipate the times. I think that Homer could have seen only in Asia the models which suggested to him the idea of the shield of Achilles. The Greeks were at that time too rude to give them the honour of such a work. With respect to Egypt, I doubt whether Homer was ever there. These motives, I think, are sufficient to refer to the times and to the people whom I am actually speaking of, the masterpiece which we are going to examine.

I see no fact in ancient history which can serve so well as the shield of Achilles, to make known the state and the progress of arts in the present ages. Without speaking of the richness and variety of the design which runs through that work, we ought to remark, first, the blending the different metals which Homer puts in the composition of his shield. Copper, tin, gold, and silver are employed in it. Lastly, we must observe, that at that time they knew the art of giving, by the impression of fire on metals, and by their mixture, the colour of different objects. Let us add to this the engraving and the chasing, and we shall agree that the shield of Achilles formed a very complicated work.

If it is easy to make known the beauty and the merit of this important piece, it is not the same as to the mechanism of the work. It is not easy to form a clear and precise idea of it: we do not sufficiently comprehend the manner in which Homer would have us to understand how it must have been executed. Yet let us see if, in modern productions, we cannot find some, whose composition may assist us to comprehend this kind of work.

Let us call to mind those works in trinkets which they

<sup>c</sup> Iliad. l. 18. v. 474. & 475.



made some years ago, in which, with the sole help of gold and silver differently mixed, upon a plain and uniform surface, they represented divers subjects. The artifice of these sort of trinkets consisted in the infinite number of little pieces inlaid and soldered on the ground of the work. All these different pieces were engraved or chased. The colour and reflection of the metals joined in the design, detached the subjects from the back-ground of the work, and made them stand forward. We may conjecture, that it was in this taste nearly, that Homer has imagined the execution of the shield of Achilles by Vulcan. The field of it was tin, intersected and varied with many pieces of different metals engraved and carved. Let us give some examples.

Would Vulcan represent oxen? he chose gold and tin<sup>d</sup>, that is to say, a piece of yellow metal and a piece of white metal to diversify his flock. Was his intention to represent a vine loaden with dark-coloured grapes? Gold composed the stem of that vine. It was supported by props of silver<sup>e</sup>. Pieces of polished and imbrowned steel probably formed the dark-coloured grape. A ditch of the same metal surrounded the vineyard. A palisade of tin might serve for the inclosure<sup>f</sup>. I shall not enter into any very particular details: this slight sketch is sufficient to explain the manner in which I conceive the mechanism of that work. As for the rest, what ideas soever we form of the shield of Achilles, we may be assured, that the invention of it was great and magnificent. Such a composition does not permit us to doubt, that, at the time of the war of Troy, goldsmiths work was come to a very great degree of perfection among the people of Asia; for it is always in these countries that Homer places the seat of arts and of famous artists.

<sup>d</sup> *Iliad*. l. 18. v. 574.

<sup>e</sup> *Ibid*. v. 561. &c.

<sup>f</sup> *Ibid*.

## ARTICLE III.

*Of Painting.*

THE origin of painting is one of the most difficult questions that occurs in the history of the arts. There reigns a very great obscurity, as to the time of its being invented and put in practice. It is not much more easy to decide to what people we ought to give the honour of it. Sentiments are so divided about the countries and about the time when this art took its rise. Some have given the honour to the Egyptians<sup>a</sup>; others to the Greeks<sup>b</sup>. It is not here a proper place to examine this point of criticism. With respect to the time in which painting took its rise, some authors pretend that the invention of this art preceded the war of Troy<sup>c</sup>; others think it posterior to that epoch<sup>d</sup>. This is what is to be examined into. But before we give ourselves up to these researches, it is proper, I think, to establish the sense of the word by which I understand *painting*, and to fix the object of the question.

I define painting, The art of representing on a plain surface, by means of colours, objects, such as they appear to us figured and coloured by nature\*. From this definition, I say, and I hope to prove, painting was not known in the ages we are now examining.

The Egyptians boast of having known painting 6000 years before the Greeks. The holy scripture and profane history equally agree to reject such a chimera. Pliny himself has not made any account of this vain pretension, and has not thought it worth his while to dwell upon it<sup>m</sup>.

<sup>a</sup> Plin. l. 7. sect. 57. p. 417. l. 35. sect. 5. p. 682.; Isidor. orig. l. 19. c. 16.

<sup>b</sup> Aristotel. Theophrast. *apud* Plin. l. 7. p. 417.

<sup>c</sup> Aristotel. *locq cit.*

<sup>d</sup> Theophrast. *ibid.*; Plin. l. 35. sect. 6. p. 682.

\* I comprehend in this definition the *Brooch*, attended with the different shades and the different degrees of colours which are there observed, besides the effect of shades, clairs obscurs, &c.

<sup>j</sup> Pliny l. 35. sect. 5. p. 681.

<sup>m</sup> *Ibid.*



But in rejecting this excessive number of years, we must examine if the Egyptians had not the knowledge of painting very early; many critics, and some modern travellers, are of this opinion. Let us examine the testimonies on which they ground their sentiment.

Diodorus, in describing the mausoleum of Osymandes, says, that the ceiling of that monument was spread over with stars on a blue ground<sup>n</sup>. We might throw some doubts on the truth of this fact. Diodorus is the only one who speaks of it, and that only from the relation of Hecateus, an author much cried down by the ancients. This testimony appears then at least suspicious. But let it be admitted, what will result from it? We are ignorant in what time this mausoleum might have been built. Diodorus does not even tell us the age in which the monarch lived whose ashes it contains. The tomb of Osymandes may be very ancient, and yet have been built in ages posterior to those we are now examining\*. Besides, I shall ask what inductions we could draw from a simple laying on of one colour, on which they had probably applied leaves of gold or silver to imitate stars.

In the ruins of those vast palaces spread in the Upper Egypt, we see, according to the report of some travellers, antique paintings of a very lively and shining colour<sup>o</sup>. I will not dispute the truth of these relations; but in agreeing that the facts are really true, they prove nothing against the sentiment which I have embraced. These paintings are probably the work of some Greek artists called into Egypt by the Ptolomeys and their successors. This conjecture appears to me so much the better founded, as a modern traveller, describing a temple in which he had seen paintings, says, that the columns that supported the

<sup>n</sup> L. 1. p. 56.

\* This is the sentiment of Marsham, p. 403.

<sup>o</sup> Voyage du Sayd par deux PP. Capucins, p. 3. & 4. in the collection of relations published by Thevenot, t. 2.; Paul Lucas, t. 3. p. 38. 39. & 69.; Rec. d'observat. curieuses, t. 3. p. 79. 81. 133. 134. 164. 166.; Voyage de Granger, p. 35. 38. 46. 47. 61.

ceiling were of the Corinthian order<sup>r</sup>. He further observes, in speaking of a palace, which, he believes, made part of the ruins of ancient Thebes, that the chapiters of the columns were of the composite order, highly finished<sup>s</sup>. We are not ignorant that the architecture of the first Egyptians had no resemblance to any of the five orders which we have from the Greeks and the Romans. Another traveller quotes a Greek inscription found in an ancient palace where he had likewise seen paintings<sup>t</sup>.

I think it right to conclude, after these facts, that the monuments in question were not the work of the ancient inhabitants of Egypt; or, supposing that they were, they had been repaired by the Greeks or by the Romans. Thus the paintings which they found there decided nothing for the antiquity of this art in Egypt.

Yet they insist, and pretend to prove by the same pictures, the antiquity of the edifices which contained them. The Persians, say they, were for some time masters of Egypt. These people were declared enemies to temples, and to all sorts of representations; and, by consequence, we cannot attribute to them the paintings which we still see in the temples and in the palaces of Egypt. These works then must have been executed before the ages in which the Persians conquered Egypt<sup>r</sup>. I am bold enough to say, that I see no sort of consequence in this reasoning.

Cambyfes destroyed as much as was possible for him, the monuments of Egypt: we may conclude from this fact, avowed by all antiquity, that every thing that bore the marks of taste and magnificence, was demolished by this barbarous conqueror. Thus we ought to look upon the palaces and the temples they mention to us as posterior to the invasion of this prince. But supposing, what appears to me very probable, that many of these edifices had escaped the fury of this prince, we must remember,

<sup>r</sup> Granger, p. 38. & 39.

<sup>s</sup> Ibid. p. 53.

<sup>t</sup> Paul Lucas, t. 3. p. 38. 39. 41. & 42.

<sup>u</sup> Rec. d'observat. cur. t. 3. p. 134. & 166.



that the conquest of Egypt by Cambyfes was only 525 years before Christ. There might then subsist Egyptian pictures anterior to this monarch, without their date ascending to the ages which we are treating of at present. It appears to me much more natural to attribute them to the Greeks. Far from imitating the conduct of the Persians, these conquerors applied themselves to repair the ancient monuments of Egypt. They enriched them with new ornaments, among which number, I think, we ought to put the pictures which they mention.

Let us go on to other testimonies which they produce to prove, that this art was known in the ages which make the objects of the second part of our work. All is reduced to conjectures, and to inductions drawn from some passages of Homer. They cite no positive fact: they alledge the veils embroidered by Helen and Andromache, of which I have spoke before; and support their opinion by the description of the shield of Achilles, and from some other places of the Iliad and Odysee. They conclude from these facts combined and united, that painting must have been in use at the time of the war of Troy. Are these conjectures well founded, and are these reports really true? That is what we are going to judge of.

The partisans of the opinion which I attack begin by supposing, that they could not think to stain wool and embroider stuffs, but with a view of imitating painting: this proceeding appears, say they, very probable: it is more natural and more easy to represent objects by the help of colours and of a pencil, than by means of threads dyed variously. The shaded embroidery could not have been invented till long after painting, of which it seems only to be a laborious imitation: yet we see that sort of embroidery much in use at the time of the war of Troy. The invention of painting is then anterior to that epoch. It is probable, moreover, that to do these works of embroidery, they used, as we do at this time, coloured patterns: this is sufficient to shew, that they knew to paint, and that that art must have been very common and very extensive in the heroic ages.

They

They draw almost the same conclusions from the description of the shield of Achilles : they insist upon the great variety of subjects and designs which have place in that piece ; on the art of grouping figures in bas relief from the multiplicity of colours which Homer, they suppose, would have us understand, that each object was animated with. The different impressions which the action of the fire leaves on the metals is, say they, the only way the poet could invent to give and vary the shades of the colour : this could not have been suggested to him but by the sight of some picture. For, they add, it is not natural to believe, that at first they thought of representing the colour of objects by the tinge which the action of the fire might impress on metals : every thing, on the contrary, tells us, that they must have begun by using natural colours. The work of Vulcan must only be considered as an imitation of painting †.

These are the principal reasonings which they use to support the antiquity of this art ; it must be agreed, that they are very specious. Let us try to answer them, keeping in view the definition which I have given of painting : that is an essential point in the present question.

Is it very certain, that in the works of embroidery of which Homer speaks, there were different sorts of colours, different shades ? I think not ; and I dare say, by examining the force of the terms which the poet uses, we shall see that he means only different figures, and different flowers spread over the veils embroidered by Helen and Andromache ‡. I do not think they will ever be able to prove, that the expressions used in these passages mean objects coloured variously \*. These designs, to keep close to the

text,

† Acad. des inscript. t. 1. II. p. 75. &c. ; Madame Dacier in her notes on Homer.

‡ Iliad. 1. 3. v. 125. &c. ; 1. 22. v. 140. &c.

\* M. l'Abbé Fraguier, and Mad. Dacier, pretend that the word *ἐντάσσειν*, signifies to represent with different colours.

But, 1. they do not quote any authority to prove that *ἐντάσσειν* signifies to represent with different colours. This word, as well as that of *ἐπασσειν*, which Homer uses in speaking of the veil embroidered by Andromache, mean literally, to spread, to sow, that is to say, that there were many figures spread about in these embroideries.



text, were of one uniform colour, different, without doubt, from the ground on which they were embroidered. I do not see any thing that indicates a mixture of shadings: the figures must have glared on the ground of the embroidery; but the colours which served to represent them, were of one and the same dye: they had no shadings, no degradation. I embrace this idea so much the more readily, as in the passages where Homer speaks of these sort of works, he never makes mention but of wool of one colour \*. Besides, in the *Odyssée*, they bring to Helen a basket of bottoms of worsted spun extremely fine †. If it had been then the custom to use different shadings in embroideries, Homer probably would have given us to understand by some epithet, that these bottoms were of many colours, and that is what he has not done. In vain then do they imagine patterns painted of different colours, since it appears certain, that the embroideries of which Homer speaks, were only of one colour. Even the idea of patterns serving for models appears to me a supposition not well supported. We are ignorant of the manner in which they worked at the time of the war of Troy; and if I might say what I think, I should believe that they then contented themselves to pounce their designs on the canvas: but in case they think patterns absolutely necessary, it must be owned, that they were simple designs of one and the same colour, such as they do at this time with a pencil or with ink.

The conclusions which they intend to draw from the shield of Achilles, do not appear to me to be better found-

The words *θρόνα ποικίλα* which we find used for the veil of Andromache, may admit of great difficulty. I doubt, notwithstanding, whether they can draw any great advantage from them. This is the only time that this expression is found in Homer: it is consequently very difficult to fix the sense. Yet, as far as we can judge, Homer did not design flowers of different colours; but rather different species of flowers. We find, it is true, the word *ποικίλος* used to design objects variously coloured, but that is only in authors greatly posterior to Homer. They will never prove, that, in the writings of this great poet, this word should design objects coloured variously.

\* *Odyss.* l. 4. v. 135. l. 6. v. 53. and 306. l. 13. v. 108.

† *Ibid.* l. 4. v. 134.

ed. Let us read attentively the text of Homer, we shall see that he never had in view any thing but a piece of goldsmiths work; and what he says of the diversity of colours, might be perfectly explained either by the action of the fire upon the metals, or by their mixture and their opposition. We cannot even suspect that he meant shadings, degradations, and union of colours, nothing, in a word, that constitutes the essence of painting.

There is nothing, for example, in the manner in which Homer describes a vine engraved on the shield, which could not be given by the mixture of metals, and by the colour the action of the fire is capable of imprinting on them: the stems were gold, the dark grapes were of imbrowned steel, and the props of silver<sup>2</sup>. But we must observe, that the poet does not speak of the leaves of this vine. If he had entered into that detail, he must necessarily have said they were green; and that is what Homer has not done; he has left us to understand that the stems adorned with their leaves were of gold.

This observation should be applied to the whole description of the shield of Achilles: no place acquaints us that this poet had an intention to design red colours, blue, green, &c. The action of the fire, and the mixture of metals, is not sufficient to give these colours: we must use for these sorts of effects metallic colours, that is to say, paint in enamel, a secret which certainly must have been unknown at that time. We even see that all the personages which Homer had occasion to put in this composition are of gold<sup>3</sup>, even to shepherds who conduct a flock<sup>4</sup>.

Lastly, even agreeing that the veils of which Homer speaks were shaded with different colours, and that the objects painted on the shield of Achilles indicate mixtures of dyes and colours diversified; the antiquity of painting does not appear to me more solidly established. To say that

<sup>2</sup> *Iliad*. l. 18. v. 561. &c.

<sup>3</sup> *Iliad*. l. 18. v. 517.

<sup>4</sup> *Ibid*. v. 577.



the art of embroidery had not been invented, but to imitate the art of painting, is a notion without any foundation. How do they know that in dying of wool, and in making use of different colours to embroider stuffs, the intention of the first men had been to copy painting? The end which they proposed in all times had been to imitate nature: painting itself was not invented but for this purpose. But, add they, it is more easy to represent objects by the help of colours and a pencil, than by any other means. I agree to it: this reason nevertheless is not more convincing; I appeal to experience. It teaches us, that in the arts they have often begun with the most difficult processes before they attained to the most simple and the most easy.

The proof that Homer never had in view painting, properly so called, and that he even did not know it, is, that the terms consecrated in the Greek language to design this art \*, are not to be found in his writings. Pliny has even remarked that this poet very seldom speaks of colours †. If painting had been in use in the times that Homer lived, can we believe that he would have neglected to speak of so admirable an invention, he who was so particularly attached to describe the arts? We may add, that we see no pictures ‡ in the palace he is pleased to describe, although he puts there statues and other ornaments of chasing and engraving.

They knew, certainly, if I may be allowed the term, to daub wood and other things of some colour. The Greeks at the time of the war of Troy used to paint their vessels red †, and yet that colour at that time was very imperfect †. The

\* *Γραφῆν* and *ζωγράφος*, which are often found in authors who have written since Homer. *Ζωγράφος* is neither in the *Iliad* nor in the *Odyssée*. If we there see the word *γραφῆν*, it is not in the acceptation of painting. It never signifies in Homer but to *represent*, to describe an object.

† L. 33. sect. 38. p. 624.

‡ Virgil has not been so circumspect. He puts pictures in the temple of Carthage. Æneas finds himself among the heroes who were painted there.

----- *Animum pictura pascit inani.* Æneid. l. 1. v. 464. &c.

But this is not the only occasion where, as I have already remarked, Virgil has not been afraid to offend against *custom*; I shall cite many examples of it in the sequel.

† *Iliad* l. 2. B. v. 141.

† See Theophrast. de lapid. p. 400.; Plin. l. 33. sect. 37. p. 624.

foot of the table which Nestor used, was also covered with some colour<sup>r</sup>. But shall we give the name of painting to such sort of works? It is the mixture, the union, and the opposition of colours, or even the different shades of the same colour, these are the reflections, the shades, and the lights which constitute the art of painting. The rest is only plaistering.

It is sufficient to cast our eyes on history, to be convinced that painting was unknown to the ages we are at present speaking of. A croud of monuments attest the frequent use they made at that time of carving, of chasing, and of sculpture. Nothing like it, nor even approaching to it, with respect to painting. There reigns on this subject the most profound and most general silence. The scripture, which speaks of so many sorts of arts, which forbids so expressly every representation tending to idolatry, says nothing of painting. Lastly, the testimony of an author who has great knowledge of antiquity, decides it in favour of the sentiment which I have embraced. Pliny affirms, that the art of painting was not yet invented at the time of the war of Troy<sup>s</sup>; and he appears not to have been determined till after having examined this question very attentively.

Want of attention and the defect of not having sufficiently reflected on the essence of painting, has made them fall into many mistakes with relation to the origin and epoch of this art. Most authors who have treated on this subject, have always confounded design with painting; and because they knew to design in the most ancient times, they have concluded that they also knew the art of painting, in spite of the essential difference there is between the practice of one and the other. This is, I believe, the source of all the errors which have been propagated about the epoch of painting. They would never distinguish the art of designing from that of painting. I imagine I have said enough to shew that

<sup>r</sup> Iliad. l. II. v. 628. I say of *some colour*, for we must know that there is no agreement about the sort of colour that Homer means by the term *Kéxres*, which he uses on many occasions.

<sup>s</sup> L. 25. sect. 6. p. 632.



painting was not known in the ages which make the second part of my work ; but that it was even posterior to Homer.

## SECTION II.

### *Of the state of arts in Greece.*

**W**E find very few lights in the history of the Egyptians and the people of Asia on the progress of the arts. It is not easy to perceive these different degrees, that successive progression which ought necessarily to prove all that enters into these kind of discoveries and inventions. It is not then in the history of the oriental nations that we must study the progress of the human mind. It does not shew itself sufficiently : the gradations are not sensible enough, for want of monuments and historical details.

The Greeks will furnish us with many more resources. We are sufficiently instructed in the state in which the arts had been successively in the different ages which composed the history of that nation. From the moment in which these people began to emerge from their barbarity, to the time in which they finished their history, we may consider their progress, and follow the order and the thread of their knowledge. We shall easily discover in the history of the arts among the Greeks, the different degrees by which these people were raised successively from the most gross practices to the most sublime discoveries.

Fables, it is true, have greatly altered the first monuments of the history of Greece. There reign many contradictions about the time and about the authors of the first inventions. We cannot depend on the facts but to a certain degree. Yet, in spite of the obscurity and uncertainty which a tradition not much to be depended upon, has spread over the times which we are now going to run over, with some attention and the assistance of criticism, we are able to clear up the truth of a great number of events ;

we

we there perceive in general a certain connection, a certain order, which does not permit us to throw them into the rank of those traditions totally void of historical foundations.

In combining, in bringing together many facts, many circumstances, we may succeed to form a very exact idea of the origin and of the progress of arts in Greece.

There are few arts of which the Greeks can boast to have been the inventors. They had received them, for the most part, from Egypt and Asia. But the point of perfection to which these people had carried the discoveries which other nations had imparted to them, sufficiently recompenses for the merit of the invention. We owe to Greece, the taste, the elegance, and all the beauties, in a word, of which the arts are capable.

We may yet say that the progress of the arts had been slow among the Greeks. From the first ages after the deluge we see pomp and magnificence reign in Asia and in Egypt. Nothing of this kind in Greece. Instead of those grand works, instead of those works equally magnificent and finished, with which we were entertained at this time, we are going to see nothing but the most simple objects, gross practices proportioned to the little knowledge that a nation must have in the arts, which only just began to emerge from barbarity, and to be polished.

## C H A P. I.

### *Of Agriculture.*

LET us recollect in a few words what I have already said elsewhere of the ancient state of Greece<sup>a</sup>. We have there seen that the first inhabitants of that country were plunged into the darkness of the most gross and most profound ignorance. They were, to speak properly, real savages running in the woods, without a chief and without discipline, fierce to the degree of eating each other; ig-

<sup>a</sup> Part I. book I. chap. I. art. 5.



norant of the use of arts, and the proper food of man, supporting themselves with fruits, with roots, and wild plants.

The conquerors who went out of Egypt a few ages after the deluge, had probably carried into Greece some tincture of the arts; but these first seeds could not prosper. The extinction of the family of the Titans, and the destruction of their empire, replunged Greece into anarchy and ignorance. The different colonies which passed some time after this event into that part of Europe from Asia and Egypt, drew them from barbarism and rudeness. These new colonies by mixing themselves with the ancient inhabitants, softened their manners. They engaged some families to quit the woods, and join them. They formed societies in many districts. The chiefs of these new establishments imparted to their subjects the most necessary knowledge for man, and provided for their most pressing necessities. Greece was insensibly polished. It was enriched successively by discoveries from Asia and Egypt. Every thing changed its face in that part of Europe. The people were humanized, the arts were solidly established, and acquired even a new degree of perfection. Light succeeded to the darkness of ignorance and rudeness.

Ancient authors do not agree about the time of these happy changes. It is very difficult to determine from their relations, by whom and in what time the arts were introduced among the Greeks. There remain on these facts the greatest obscurity and the greatest contradictions. Let us try to discover the source of them.

The Greeks had received their arts from the people of Egypt and of Asia; but conformable in this point with all the other nations of antiquity, they would attribute their origin to the gods. This notion has thrown the greatest obscurity over the history and the epocha of the arts in Greece. We may assign for it many causes.

The chiefs of the first colonies which came into Greece, brought into that part of Europe some tincture of the arts. They introduced at the same time the worship of the divinities

nities honoured in the countries from whence they came. These divinities were for the most part men whom they had deified in acknowledgment for the useful discoveries which they had imparted to mankind. The strangers who introduced these gods into Greece, without doubt made known also the motive of the worship which they paid to them.

These first establishments, as I have already said, did not subsist long. The family and the empire of the Titans was extinguished after two or three generations. Greece fell immediately into its ancient state. Ignorance, an inseparable companion of trouble and anarchy, made them forget these events. There only remained a confused remembrance. The Greeks did not hesitate to confound those who had shewed them the arts, with the divinities under whose auspices they had been brought to them : the first cause of error and confusion.

New colonies passed into Greece some time after the Titans. The conductors of these various colonies brought again into that part of Europe the arts and the divinities of the countries from whence they came. These countries were nearly the same with those from whence the ancient colonies came, that is to say, Egypt and Phœnicia. The worship of the divinities which these new colonies introduced, did not differ, either in the form or the motives, from that which the Titan princes had originally brought; a new source of errors and uncertainties. Ignorance and the course of time had confounded these epochs; and they afterwards looked upon those as new institutions, whose origin was very ancient.

The divinities of Egypt and Phœnicia, by changing their retreat, insensibly changed their name. The Greeks, after having adopted them, appropriated them to themselves, and would make it be believed that the gods whom they adored, were born in Greece. In consequence of this, they searched for explications and resemblances agreeable to those ideas. The priests took care to propagate them. They disguised the history of the ancient divinities. The truth of the facts



was forgot by little and little. The poets, whom we regard as the divines of paganism, but who were only in reality the divines of the people, soon made this appear the origin of the gods brought from Egypt and Phœnicia. They invented different circumstances proper to adorn and to clothe their fictions. Instead of the ancient tradition, they substituted gods born in the heart of Greece. This system took almost with every body; pride and superstition favouring it.

The Greeks began very late to write history. They had then almost lost sight of those first events. Yet the memory of them was not so far abolished, but that there remained some traces. The sensible writers of Greece have acknowledged, that all the divinities which they adored had been brought to them from the east<sup>i</sup>. But those who followed the popular ideas, have written conformably to the system reigning in the minds of the people, and have propagated to us those errors adopted in the latter times. Hence that monstrous mixture of ridiculous and absurd adventures with which the history of the gods of Greece is filled in the greatest part of the writers of antiquity. Hence those contradictions which we so often meetwith in the ancient authors of the origin of arts and the worship of the gods in Greece. We shall see more than one example.

## A R T I C L E I.

### *Of Tillage.*

**I**F we believe the most generally received opinion, the Greeks were indebted for the knowledge of tillage to a queen of Sicily named Ceres<sup>k</sup>. They have joined to her Triptolemus, son of Celeus King of Eleusis<sup>l</sup>. These two personages were commonly thought to have shewn to Greece

<sup>i</sup> See Herod. l. 2. n. 50.; Plato, in Cratyl. p. 281.

<sup>k</sup> Marm. Oxon. ep. 12.; Virgil. georg. l. 1. v. 147.; Diod. l. 5. p. 333.; Ovid. Metam. l. 5. v. 341.; Hygin. fab. 277.; Plin. l. 7. sect. 57. p. 412. & 415.; Justin. l. 2. c. 6.

<sup>l</sup> Id. ibid.

all that concerns agriculture, the use of the plough, the way of breaking oxen and fixing them to the yoke, the art of sowing grain and grinding it <sup>m</sup>. They also give to Ceres the merit of having invented carts and other carriages proper to carry burdens <sup>n</sup>. It was, say they, Celeus, father of Triptolemus, who first taught men to use panniers and baskets <sup>o</sup> to collect and keep the fruits of the earth. The Athenians boast of having first possessed the knowledge of all those things, and even of having imparted it to Greece <sup>p</sup>. Such had been the most common and generally received sentiment; but it labours under many difficulties.

Ancient memoirs give to Bacchus the introduction of tillage into Greece <sup>q</sup>. Pliny and other authors have given the honour to one Buzyges an Athenian <sup>r</sup>. An ancient historian of Crete names for the first inventor of agriculture one Philomelus <sup>s</sup>. The Argives, lastly <sup>t</sup>, and the Phe-neates <sup>u</sup>, dispute with the Athenians the glory of having first known tillage.

We find also great contradictions as to the time in which this art began to be established in Greece. If we follow the most common opinion, which gives that honour to Ceres, we shall be much embarrassed about the epoch of that princess. The Parian marbles <sup>x</sup>, Justin <sup>y</sup>, and other authors, place the arrival of Ceres in the reign of Erechtheus sixth King of Athens, 1409 years before Christ. How can we reconcile that date with other facts entirely opposite, and which appear at least as well supported?

Fable and history agree to make Ceres cotemporary with the Titans, Saturn and Jupiter, &c. <sup>z</sup>; an ancient tradition says, that this princess had learned them to make harvest <sup>a</sup>:

<sup>m</sup> Ibid. <sup>n</sup> Virgil. *georg.* l. 1. v. 163. <sup>o</sup> Ibid. v. 165.

<sup>p</sup> Diod. l. 5. p. 333.; Justin. l. 2. c. 6.; Aristid. *orat. in Eleus.* t. 1. p. 257.

<sup>q</sup> Diod. l. 4. p. 232. & 249.; Plut. t. 2. p. 299. B.

<sup>r</sup> L. 7. sect. 57. p. 415.; Auson. *ep.* 22. p. 674. & 675.; Hesychius, *voc.*

*Βούζυγες*.

<sup>s</sup> Hygin. *poet. astron.* l. 2. c. 4. p. 366.

<sup>t</sup> Paus. l. 1. c. 14. <sup>u</sup> Id. l. 8. c. 15. <sup>x</sup> Epoch 12.

<sup>y</sup> L. 2. c. 6. p. 87.

<sup>z</sup> See Apollod. l. 1.; Diod. l. 5. p. 232.

<sup>a</sup> Apollon. *Argon.* l. 4. v. 988. & 989.



they did not hesitate even to divide with her the honours of divinity. They had built temples to Ceres at the time of the son of Phoroneus <sup>b</sup>, and Phoroneus passed for the first mortal who had reigned in Greece <sup>c</sup>. They say also, that the ancient Hercules, him whom they had put in the number of the *Dactyli Idæi*, had had the guard of the temple of Ceres Mycaleſia <sup>d</sup>. Indeed Herodotus does not make the worship of this goddess so ancient. He says, that it was brought into Greece by the daughters of Danaus <sup>e</sup>. Yet this event precedes the reign of Erechtheus more than 100 years <sup>\*</sup>.

With respect to Triptolemus, some authors have advanced, that he was the son of the Ocean <sup>f</sup>. They anciently understood by that expression, a person who came by sea in ages very remote. Pausanias confirms one part of these facts. He says, that, according to the tradition of the Arcadians, Arcas, grandson of Lycaon, learned from Triptolemus the manner of sowing corn, and that of making bread <sup>g</sup>. This Arcas passed for one of the sons of Jupiter <sup>h</sup>.

The arrival of Cadmus in Greece falls 1519 years before Christ. Through the fabulous tracts which disguise the history of this prince, we just perceive, that in his time the art of sowing grain must have been known, otherwise they could not have imagined to make him till the earth, to sow there the teeth of the dragon which he had conquered <sup>i</sup>. But further, an ancient tradition says, that Ino, daughter of this prince, wanting to cause a sterility in Bœotia, had engaged those who were to furnish the seeds which were destined to be sown, to place them before the fire to make the seed die <sup>k</sup>.

We farther see, according to some authors, that Myles son of Lelex first King of Laconia was looked upon as the inventor of the millstone <sup>l</sup>. The reign of this prince pre-

<sup>b</sup> Paus. l. 1. c. 39. 40. l. 2. c. 35. See also Diod. l. 5. p. 379.

<sup>c</sup> See part 1. book 1. chap. 1. <sup>d</sup> Paus. l. 9. c. 27. <sup>e</sup> L. 2. n. 171.

<sup>\*</sup> They have fixed the arrival of Danaus in Greece 1510 years before Christ.

<sup>f</sup> Apollod. l. 1. p. 13.; Paus. l. 1. c. 14.

<sup>g</sup> L. 8. c. 4. See also Strabo, l. 14. p. 997. l. 16. p. 1089.

<sup>h</sup> Paus. l. 8. c. 3. <sup>i</sup> Apollod. l. 3. p. 136.; Ovid. metam. l. 3. v. 102. &c.

<sup>k</sup> Apollod. l. 1. p. 31.; Hygin. fab. 2.; Paus. l. 1. c. 44. p. 108.

<sup>l</sup> Paus. l. 3. c. 20.

ceded by more than a hundred years the epoch in which they have commonly fixed the arrival of Ceres in Greece. We must observe on this subject, that there must have passed some time between the use of agriculture and the invention of the millstone among the Greeks. Like all other nations of antiquity, these people at first knew no other method of preparing the grains but that of roasting them <sup>m</sup>.

All these considerations bring me to think, 1. that the origin of agriculture must be more ancient in Greece than is commonly said. 2. That that art has suffered interruptions. 3. That the pretension of the Athenians of having taught tillage to all the rest of Greece, is neither well founded nor very exact. This is the manner in which I attempt to reconcile one part of the contradictions which I have mentioned.

I believe we ought to refer the first knowledge which Greece had in agriculture, to the times the family of the Titans seized on that part of Europe <sup>n</sup>. These princes came out of Egypt, a country where tillage had been practised time immemorial. It is to be presumed that they would instruct their new subjects in it <sup>o</sup>. They established at the same time the worship of the gods honoured in the countries from whence they came. Herodotus <sup>p</sup>, Diodorus <sup>q</sup>, and all the writers of antiquity, acknowledge that the Ceres of the Greeks is the same divinity with the Egyptian Isis.

The extinction of the family of the Titans, which ended in the person of Jupiter, replunged the Greeks into anarchy and confusion. The people gave themselves up to lead a wandering and vagabond life: the inhabitants of the coast addicted themselves to ramble over the seas, and make a trade of piracy <sup>r</sup>. This state subsisted till the arrival of new colonies which came from Egypt and Phœnicia to establish themselves, some time after the Titans, in many

<sup>m</sup> Theophrast. *apud* schol. Hom. *ad* Iliad. l. i. v. 449. ; Eustath. *ad* hunc loc. ; Etymol. magn. voce Οὐλοχόραξ.

<sup>n</sup> See part i. book i. chap. i.

<sup>o</sup> See Æschyl. in Prometheus vindicta, v. 461. &c.

<sup>p</sup> L. 2. ii. 59.

<sup>q</sup> L. i. p. 18.-31. 127. i. 5. p. 385.

<sup>r</sup> Thucyd. l. i. p. 4. & 6. ; Plut. in Themist. p. 120. E.



countries of Greece. This space of time was more than sufficient to make them lose the small tincture of the arts which the Greeks had learned under the government of their first conquerors. I have said elsewhere it did not appear to have been of long duration<sup>†</sup>. The knowledge and practice of tillage must particularly have been abolished soon after. This art had had great difficulty of being introduced into Greece. Triptolemus, with whom tradition has divided with Ceres the glory of having shewn to the Greeks the culture of grains, found great opposition to his designs. This is easy to be perceived even in those fabulous tracts with which the new mythology had loaded the history of this prince: he thought more than once that it would have cost him his life<sup>‡</sup>. Ceres was obliged to travel in the air in a chariot drawn by flying dragons<sup>§</sup>: An allegory which must be understood of the measures taken by that princess to take Triptolemus from the dangers which the new art he would introduce had brought him into.

Bacchus ran the same risks, when he would instruct the Greeks in cultivating the vine<sup>\*</sup>. It was not, in reality, a light undertaking to make a change in the manners of such sort of savages, as the Greeks were at that time. It was not easy to subject to the fatigues of agriculture, these independent people accustomed to a wandering life, which did not oblige them to have any care or any trouble. Men do not love to be subjected to labour, whatever advantages may accrue from it<sup>‡</sup>.

The floods which happened under Ogyges and under Deucalion, must also have contributed to make them lose the knowledge and practice of agriculture: these deluges ravaged and laid waste many countries of Greece<sup>‡</sup>.

<sup>†</sup> Part I. book I.

<sup>‡</sup> See Ovid. *metam.* l. 5. v. 654. &c. Hygin. *fab.* 147.; Euseb. *chron.* l. 2. p. 82.

<sup>§</sup> Apollod. l. 1. p. 13.; Ovid. *loco cit.*; Hygin. *poet. astr.* l. 2. *fab.* 14.; Aristid. *orat. in Eleus.* t. 1. p. 257.

<sup>\*</sup> See Hom. *Iliad.* l. 6. v. 130. &c.; Diod. l. 3. p. 234.; Apollod. l. 3. p. 141.; Ovid. *Met.* l. 3. v. 514.; Paus. l. 1. c. 2.; Hygin. *fab.* 132.

<sup>‡</sup> See part I. b. 2. ch. 1. art. 2. The example of the savages of America is a convincing proof.

<sup>‡</sup> See Diod. l. 5. p. 376.; See also part I. b. 1. art. v.; & *supra*, b. 1.

Greece was then fallen again into the ignorance and barbarity from which the Titan princes had drawn it, when the different colonies which went from Egypt and Phœnicia passed successively into that part of Europe. The first of these new colonies was conducted by Cecrops. This prince, at the head of an Egyptian colony, landed in Attica, and settled there 1582 years before the Christian æra <sup>a</sup>. Cecrops was not ignorant of agriculture. Cicero tells us that he introduced in Greece the custom of spreading of corn, in funeral ceremonies, on the tomb of the deceased when they were buried <sup>b</sup>. We may conclude then that Cecrops tried to sow grain; but discouraged, without doubt, by the dry and sandy soil of Attica, he laid aside that enterprize. We see that he got his corn from Sicily and Libya <sup>c</sup>. It was not the same with olives. Cecrops planted them, and succeeded very well. This prince established afterwards the worship of Minerva, because that goddess, according to ancient tradition, had made known to men the utility of these trees, and learned them to cultivate them <sup>d</sup>.

A little while after Cecrops, Cadmus and Danaus, coming one from Egypt, and the other from Phœnicia, passed into Greece. Cadmus settled in Bœotia, and Danaus in the Argolide. We have just seen, that, according to all appearances, these princes had brought agriculture into the districts where they were settled <sup>e</sup>.

About one hundred and sixty-three years after Cecrops, Attica found itself afflicted with a very great dearth, because the common convoys, without doubt, had failed them. In this circumstance Erechtheus conductor of a new Egyptian colony, arrived with a fleet loaden with corn, and delivered the country from the famine which oppressed it. The Athenians, in acknowledgment of such an important service, placed him on the throne <sup>f</sup>. Erechtheus studied immediately to put his people in a state not to have any more

<sup>a</sup> Supra, b. 1.

<sup>b</sup> De leg. l. 2. n. 25. t. 3. p. 158.

<sup>c</sup> Tzetzes, ex Philocor. ad Hesiod. op. v. 30. p. 18. edit. in 4to 1603.

<sup>d</sup> See *infra*, tit. 3.

<sup>e</sup> Supra, b. 1. chap. 4.

<sup>f</sup> Diod. l. 1. p. 34.



recourse to a stranger. Judging the plains of Eleusis more proper than the rest of Attica for tillage, he caused it to be ploughed and sown <sup>s</sup>. He had the happiness to succeed in this undertaking, and to accustom the Athenians to tillage.

Diodorus, from whom we have taken one part of this recital, adds, that Erechtheus taught the Athenians the worship of Ceres, and established at Eleusis the mysteries of that goddess, such as they were practised in Egypt. This is what has given room to say, according to the remark of the same historian, that Ceres herself was come to Athens, and to place at that epoch the discovery of corn, which was then brought from Egypt to the Athenians, under the name and under the auspices of that goddess <sup>a</sup>. We have seen that the Ceres of the Greeks was the same divinity as the Isis of the Egyptians, to whom, according to the tradition of these people, they owed the knowledge of tillage. Erechtheus having succeeded in his enterprize, it was natural that he should establish the worship of Isis. It was from a similar motive that Cecrops, as I have just said, had instituted the worship of Minerva.

But the origin of agriculture, and that of the worship of Ceres, were more ancient in Greece than the reign of Erechtheus: we cannot doubt of this after the different traditions which I have reported. I think then that the establishment of the mysteries of Ceres at Eleusis, and the knowledge of tillage which they place under Erechtheus, ought only to be regarded as a renewal or re-establishment of ancient customs which the troubles and misery of the times had insensibly abolished.

The worship of Ceres was greatly esteemed in Greece, under the reign of Erechtheus: nothing is more famous in antiquity than the mysteries celebrated at Eleusis. That feast, at first peculiar to the inhabitants of Attica, became afterwards common to all the Greeks. Yet the Argives

<sup>s</sup> Marm. oxon. ep. 13.; Diod. l. 5. p. 385.; Justin. l. 2. c. 6. p. 87.; Plurnut. de nat. deorum, c. 28. p. 209.

<sup>a</sup> *Loco cit.* & l. 5. p. 333.

had received the worship of Ceres before the Athenians : But whether it was that they did not know all the mysteries, or from motives at present unknown to us, the honour of having communicated to all Greece the worship of Ceres, remained to the Athenians. As in the idea of these people, the knowledge of tillage was joined to the establishment of the mysteries of Eleusis, they would make us believe, that Greece was equally indebted to them for both discoveries. Yet we see that some Greek cities protested against this pretension : but it does not appear they paid any regard to it. The plurality of votes was declared for the Athenians : they pass, in almost all the ancient writings which now remain to us, to have polished Greece. It is to the pens of their writers, that, without doubt, they owe this pre-eminence. The Athenians, vain to excess, have always boasted of having communicated the arts, the laws, and the sciences, to all the rest of the Greeks. Argos, Thebes, and some other cities, where the origin of arts to me appears almost as ancient as in Attica, have produced neither so many writers, nor of a merit equal to those of the Athenians. The writings of the Athenians have always carried it. The ancient authors, even the Romans, sed by these writings, have got those ideas of a superiority which the Athenians had at all times thought proper to arrogate : they have adopted them, and have transmitted them to us. This is perhaps the source of that anteriority of knowledge, which the Athenians enjoy even at this time. These indeed are only conjectures : but it is an expedient to which we are too often obliged to have recourse when we treat of events of this high antiquity.

If agriculture, as I suspect, had been difficult to be introduced among the Greeks in the first ages, these people afterwards thought very differently. In all the states formed by the new colonies of which I have spoken, the sovereigns applied themselves to divert their subjects from the custom of rambling upon the seas. They used various methods to bring them to cultivate the earth : I have spoken



of it in the article of government<sup>k</sup>. Their design succeeded, the Greeks were not long of perceiving and acknowledging the advantages of agriculture: they gave themselves up to it with much ardour and success.

Barley was the first species of grain which the Greeks cultivated<sup>l</sup>, and the plains of Rharia were the first which were sown in Attica<sup>m</sup>. The sorts of grains which were sown there are not indeed specified by the marbles; the word is effaced, but we may supply it from Pausanias. This author says, that, in remembrance of the first essays of agriculture, the sort of cakes which the Athenians used in their sacrifices were still made in his time with barley gathered from the fields of Rharia<sup>n</sup>. We are ignorant in what time they began to cultivate in Greece wheat and other grains. There is room, for example, to doubt, if in the ages we now speak, or even for a long time afterwards, the Greeks had any knowledge of oats. We see that in the time of the war of Troy barley was the common food of the horses<sup>o</sup>.

Homer and Hesiod are the only persons who can give us any knowledge of the manner in which the ancient Greeks cultivated their lands. We may judge of these original practices by those which subsisted in the times of these authors. It appears that they then gave three ploughings to the ground<sup>p</sup>. Two sorts of ploughs were in use:

<sup>k</sup> B. i. art. 8. p. 65. & 66.

<sup>l</sup> Dionys. Halicarn. l. 2. p. 95.; Plut. t. 2. p. 292. B.; Plin. l. 18. sect. 14. p. 108.; Paus. l. 1. c. 38.; Pindar. schol. ad Olymp. od. 9. p. 93.

<sup>m</sup> Marm. Oxon. ep. 13. Plutarch seems to oppose this tradition. t. 2. p. 144. A.

<sup>n</sup> L. 1. c. 38.      <sup>o</sup> Odyss. l. 4. v. 41.

<sup>p</sup> Ibid. l. 5. v. 127.; Hesiod. Theog. v. 971. See Salmas. Plin. exercit. p. 509. &c.; Le Clerc, not. in Hesiod. p. 264. & 266.

I think we perceive a glimpse of that ancient practice in the name of Triptolemus. Le Clerc, according to his custom, has searched in the oriental languages the etymology of this word. Triptolemus, according to his opinion, signifies *breaker of the ridges*. Bibl. univers. t. 6. p. 54. & 91.

But I think that it would be more natural to draw the name of Triptolemus from two Greek words Τρις & πολέω, *ter versa*.

This name probably has allusion to the custom of ploughing the land three times; a custom which the tradition of the Greeks implies, without doubt, to have been shewn by Triptolemus. A passage of Hesiod seems to favour this conjecture. See Theog. v. 971.

one which was only a single piece of wood ; the other, more compounded, consisted of two pieces of wood contrived in such a manner that one part made the body of the plough, and the other served to yoke the oxen to. I have borrowed from Hesiod this description<sup>a</sup> : but I confess, at the same time, it is not easy to form a clear and perfect idea of all its construction. We may say in general, that these ploughs were very simple ; they had no wheels, and we do not find that they had any iron about them\*.

Oxen and mules appear to have been the animals which the Greeks made use of most commonly for tillage<sup>r</sup>. They used mules preferably to oxen when they wanted to open the earth lightly, as when they gave to the field a second ploughing<sup>r</sup>. We may conjecture also, and with much reason, that horses were sometimes used in this work<sup>r</sup>.

The Greeks had been a long time without the knowledge of the harrow. This machine does not appear to have been in use even in the time of Hesiod. We see in reality, that this poet employs a young slave to cover with a spade the seeds spread on the surface of the earth<sup>u</sup>.

The custom of manuring the grounds was established very anciently in Greece. Pliny attributes the invention of it to Augeas, so famous in Greek antiquity for the immense quantity of his flocks\*. The care of cleaning the stables

<sup>a</sup> We may conjecture this from the epithets that the poet gives to the two ploughs of which he speaks. *Oper. & Dies*, v. 432. & 433. See *Graevius*, *lection. Hesiod.* p. 48. & 49. ; *Hom. Iliad.* l. 10. v. 353. & *schol. ad hunc vers.*

\* They might object, that *Homer*, *Iliad.* l. 23. v. 835. in speaking of a mass of iron, says, that it might be of great use to an husbandman, and conclude from thence that it should enter into the construction of ploughs. But I think that the poet would only say, that iron was proper to make many of the tools of which they had need for the country, such as sickles, axes, &c. The reason on which I ground this is, that if they had used iron in the construction of ploughs, the share, without doubt, ought to have been made of it. But *Hesiod*, who was probably posterior to *Homer*, says plainly that the share was made of a sort of oak very hard, called *πεῖσις*. *Op. & Dies*, v. 436.

<sup>r</sup> *Hesiod. op. & dies.* v. 46.

<sup>r</sup> See *Iliad.* l. 10. v. 351. &c. ; *Odysse.* l. 8. v. 124.

<sup>r</sup> *Hesiod. op. & dies*, v. 816.

<sup>u</sup> *Id. Opera*, v. 469. &c.

\* *L.* 17. *sect.* 6. p. 55.



of this prince was, say they, one of the labours which Eurystheus imposed on Hercules <sup>y</sup>. What is certain, is, that the secret of meliorating the grounds and fertilizing them by means of manure, was known to the Greeks in the most ancient times. Homer speaks of it precisely <sup>z</sup>. Cicero <sup>a</sup> and Pliny <sup>b</sup> had already remarked it <sup>c</sup>.

These people had a manner of making their harvest, different from that which we practise at present. Their reapers did not range themselves in a line as ours do. They divided themselves into two parties, and each taking an end of a ridge, advancing one against the other, they met about the middle of the field <sup>d</sup>. The Greeks did not heap up their grains in sheaves in the barns, as is our practice. They put them in vessels of earth, or in baskets destined for that purpose <sup>e</sup>. Instead of beating the corn with flails, they made the oxen tread it <sup>f</sup>. There is great reason to think, that the fan which they used, had no resemblance to ours. We may conjecture that this machine was made a good deal like a shovel <sup>g</sup>.

I have already said elsewhere, that the Greeks originally, like all other people, had been ignorant of the art of reducing their grain to meal. They then eat it green and half roasted <sup>\*</sup>. They learned afterwards to grind it. This art must have been very rude in the beginning. They knew nothing but the pestle and mortar to reduce the grain into flour <sup>h</sup>. The Greeks, by degrees, had in use hand-mills.

<sup>y</sup> Diod. l. 4. p. 259.; Paus. l. 5. c. 1. p. 377.

<sup>z</sup> Odyss. l. 17. v. 297. &c.

<sup>a</sup> De senect. n. 15. t. 3. p. 312.

<sup>b</sup> L. 17. sect. 6. p. 55.

<sup>c</sup> The passage of Homer meant by Cicero and by Pliny, is found in the the Odyssey, l. 23. v. 225. & 226.

They speak of Laertes, father of Ulysses, whom Homer, according to these two authors, represents employed in manuring his lands. It is in this sense that they translate the word *λιεραίνοντα*, used by this poet, though literally this word means simply, to raise or rake. But without having recourse to this passage, which may be dubious, we find in that which I have quoted the custom of manuring the grounds established in a precise manner.

<sup>d</sup> Iliad. l. 11. v. 67. &c.

<sup>e</sup> Hesiod. op. v. 475. & 482. &c.

<sup>f</sup> Iliad. l. 20. v. 495. &c.

<sup>g</sup> Odyss. l. 11. v. 125. See the notes of Mad. Dacier.

<sup>\*</sup> Supra, p. 179.

<sup>h</sup> Hesiod. op. v. 423.

We have seen, that they gave the honour of this invention to Myles son of Lelex first King of Laconia\*. These machines, notwithstanding, were very imperfect. They were ignorant then of the art of making them move by means of water and of wind. The ancients, during many ages, knew nothing but hand-mills. In Greece<sup>i</sup>, as well as in Egypt<sup>k</sup>, it was the women who were charged with the labour of turning the mill.

The Greeks had a custom of giving to the grains, before they ground them, many preparations which proved how very imperfect the machines were which they employed in that operation. They began by steeping the grains in water. They then left them to dry for a whole month; and afterwards dried them by the fire. It was only after all these operations that they brought their corn to the mill<sup>l</sup>. I have explained elsewhere the motives of all these preparations<sup>m</sup>.

I have nothing particular to say of the manner in which the Greeks used the flour in the first times. I have spoke sufficiently of these ancient practices in the first part of this work<sup>n</sup>. We cannot determine the time in which the art of making bread began to be known in Greece. Tradition gives the honour of this invention to the god Pan<sup>o</sup>. We see by Homer, that this discovery must have been very ancient<sup>p</sup>. I shall remark farther, that in the heroic times the women appear to have been the only persons who concerned themselves in the care of preparing this aliment<sup>q</sup>.

\* Supra, p. 179.

<sup>i</sup> Odyss. l. 7. v. 103. &c. l. 20. v. 105. &c.

<sup>k</sup> See part 1. book 2. chap. 1.

<sup>l</sup> Plin. l. 18. sect. 14. p. 108.

<sup>m</sup> Part 1. book 2. chap. 1.

<sup>n</sup> Book 2. chap. 1.

<sup>o</sup> Cassiodor. var. l. 6. formul. 18. p. 106.

<sup>p</sup> Iliad. l. 9. v. 216. ; Odyss. l. 1. v. 147.

<sup>q</sup> See Odyss. l. 7. v. 103. &c. l. 18. v. 559. & 560. ; Herod. l. 8. n. 137.



## ARTICLE II.

*Of the art of making wine.*

THE epoch in which the Greeks had begun to cultivate the vine, and to know the art of making wine, labours under almost as many difficulties as that of tillage. The Athenians pretend equally to have communicated this knowledge to all Greece<sup>r</sup>. They place the epoch in the reign of Pandion the First<sup>t</sup>, fifth King of Athens, 1463 years before Christ. But they were not agreed about the author of this discovery. Some give that honour to Bacchus<sup>u</sup>, others to one Eumolpus, who had, say they, quitted Thrace, his original country, to come and settle in Attica<sup>v</sup>. I do not think we ought to pay much regard to this pretension of the Athenians. In all respects, it appears to me to have no foundation.

The greatest part of ancient authors agree to give the discovery of the vine to Bacchus. They acknowledge, it is true, many persons who have borne that name; nevertheless, it is only to one who passed for the son of Jupiter. We ought, therefore, to make the first knowledge which the Greeks had of making wine, to ascend to the ages in which the Titans had reigned in that part of Europe; and I think in reality, that the culture of the vine had been introduced among the Greeks under the dominion of these princes. But it must have been with this knowledge, as with many others which were abolished in the trouble and confusion which the extinction of the family of the Titans, and the destruction of their empire, occasioned in Greece.

I have already said, that some time after this event, the

<sup>r</sup> Apollod. l. 3. p. 197.; Hygin. fab. 130.; Justin. l. 2. c. 6.; Paus. l. 1. c. 2.; Propert. l. 2. eleg. 33. v. 29.

<sup>t</sup> Apollod. l. 3. p. 197.

<sup>u</sup> Id. ibid.; Hygin. fab. 130.

<sup>v</sup> Plin. l. 7. sect. 57. p. 415. Pliny makes this Eumolpus an Athenian, but he is wrong. He was originally of Thrace, from whence he came to settle at Athens. See Strabo, l. 7. p. 494.

conductors of new colonies, had brought into Greece the arts under the auspices of the gods honoured in the countries from whence they came: depending on this principle, I conjecture, that Bœotia had been the first district of Greece where the culture of the vine had been renewed. Cadmus, at the head of a Phœnician colony, settled there 1519 years before the Christian æra. This prince had learned, in his travels, the art of planting the vine. He made it known to his subjects, and established at the same time the worship of Bacchus, to whom the tradition of the people of the East had given the honour of the discovery of wine. Every thing seems to favour this system. The Greeks said, that their Bacchus was the issue of Jupiter and of Semele, daughter of Cadmus. Herodotus gives us the explication of this fable, by teaching us, that this prince introduced the worship of Bacchus into Greece\*. Yet I believe, from the reasons I have already given, that Cadmus only made a renewal of it.

The Greeks had very particular methods of making wine. After having cut the grapes, they exposed them ten days to the sun and to the coolness of the night. They put them afterwards into the shade for five days, and the sixth they stamped them†. This method was very long and very troublesome. It was with great difficulty they could make a large quantity of wine at a time. They must have had a considerable quantity of ground to spread and expose the quantity of grapes sufficient to make, for example, ten butts of wine. And there must not have been a less space, and more precautions afterwards to make these grapes dry in the shade. All these methods were subject to great inconveniencies. The wine at that time must have been very dear in Greece, although they collected a great quantity. We may also judge of this, by the epithets which Homer gives to many of these countries.

\* L. 2. n. 49.

† *Odyss.* l. 7. v. 122. &c.; *Hesiod. oper.* v. 611. &c. See *Mad. Dacier's* notes on the 7th book of the *Odyss.*, p. 167.



The Greeks did not keep their wines in casks. The useful invention of these vessels of wood so commodious, was unknown to them. They put their wines in borachios, and very often into great vessels of earthen ware<sup>a</sup>. The Athenians were particularly famous for making of these sorts of vessels<sup>a</sup>. But the custom of keeping the wine in these earthen vessels, liable to be broken, or in these leather-bags, subject to contract bad smells, or to unrip, rendered at that time the carriage of wines very difficult, and the keeping of them less sure than with us at present.

Wine, if we believe some authors, was not the only present which Bacchus made to the Greeks. After the example of Osiris, he taught them to compose with water and barley, a liquor, which, for strength and goodness, approached to wine<sup>b</sup>. Ovid, speaking of the meeting that Ceres, exhausted with weariness, had with an old woman named Baubo, says, that the goddess, having demanded some water, the old woman presented her with a liquor composed of dried grain<sup>c</sup>. It seems that the authors whom I cite would mean beer; but we may doubt if the knowledge of that liquor had been as ancient in Greece as they say. Homer never mentions it. Is it with design? or rather, is it not a mark, that in his time beer was not in use?

### A R T I C L E III.

#### *Of the art of making oil.*

**T**Hough I have thought we should refuse to the Athenians the honour of having communicated to all Greece tillage and the culture of the vine, I shall not say so much of all that concerns the plantation of olives and

<sup>a</sup> Odyss. l. 9. v. 196.; Iliad. l. 9. v. 465.; Herod. l. 3. n. 6.; Diod. l. 5. p. 380.; Plin. l. 35. sect. 46. p. 711.

<sup>a</sup> See Casaub. not. in Athen. l. 1. c. 22. p. 65.

<sup>b</sup> Diod. l. 4. p. 248.

<sup>c</sup> Metam. l. 5. v. 449. &c.

the art of drawing oil from their fruit. Attica appears to have been incontestably the first country in Greece, in which that part of agriculture is said to have been known <sup>d</sup>. The Athenians were indebted for it to Cecrops. This prince came from Sais <sup>e</sup> a city of the Lower Egypt, where the culture of the olive-tree was the principal occupation of the inhabitants <sup>f</sup>. Cecrops, who found the soil of Attica very proper for that sort of trees, took care to have them planted <sup>g</sup>. The success answered his expectation. Athens in a little time became famous for the excellence of its oil. It was even anciently the only place in Greece where olives were to be found <sup>h</sup>.

Antiquity thought they were indebted to Minerva for the discovery of this tree <sup>i</sup>. Moreover this goddess was particularly revered at Sais <sup>k</sup>. The culture of the olive was then brought into Greece under the auspices of Minerva. Cecrops, in imparting that knowledge to the inhabitants of Attica, took occasion to establish, at the same time, the worship of that goddess <sup>l</sup>. The feast of Minerva was celebrated at Athens <sup>m</sup> in the same manner as at Sais <sup>n</sup>, by lighting an innumerable quantity of lamps. The Greeks have propagated many fables about all these events; they relate, that Minerva and Neptune had entered into a dispute about the honour of giving a name to the city of Athens. The question was to determine this dispute. Some said, that they would refer it to Cecrops <sup>o</sup>, others, that the oracle ordered all the people to be assembled <sup>p</sup>; some, lastly <sup>q</sup>, that the twelve great gods were chosen to judge of the dispute. However it was, they determined, that those of the two divinities who could produce the most

<sup>d</sup> Herod. l. 5. n. 82.; Ælian. var. hist. l. 3. c. 38.; Justin. l. 2. c. 6.

<sup>e</sup> Diod. l. 1. p. 33. <sup>f</sup> Herod. l. 2. n. 59. & 62.

<sup>g</sup> Syncell. p. 153. B. <sup>h</sup> Herod. l. 5. n. 82.

<sup>i</sup> Virgil. georg. l. 1. v. 18.; Diod. l. 5. p. 389.

<sup>k</sup> Herod. l. 2. n. 59. & 62.; Cicero de nat. deor. l. 3. n. 23. t. 2. p. 506.

<sup>l</sup> Paus. l. 1. c. 27. l. 2. c. 36.; Euseb. præp. evang. l. 10. c. 9. p. 486.

<sup>m</sup> Marsh. p. 128. <sup>n</sup> Herod. l. 2. n. 62. <sup>o</sup> Euseb. chron. l. 2. p. 75.

<sup>p</sup> Varro *apud* August. de civit. Dei, l. 18. chap. 9.

<sup>q</sup> Apollod. l. 3. p. 192.



useful invention should name the city they were building. Neptune, with a stroke of his trident, made a horse come out of a rock : Minerva, by striking the earth with a lance, made an olive-tree come up : this production got her the victory. The explication of this fable is not very difficult to penetrate into.

It appears that it was not without some difficulty that Cecrops engaged the inhabitants of Attica to apply themselves to the culture of olive-trees. The establishment of the worship of the gods was at that time too intimately connected with the establishment of the arts to receive one without the other. To adopt the worship of Minerva, was to declare that they would apply themselves to those arts of which that goddess passed for the inventress. The ancient inhabitants of Attica, profiting by their neighbourhood to the sea, were accustomed to piracy. Neptune of consequence was their tutelar divinity. One party opposed the new establishment of Cecrops ; he would change the ancient manner of life. This prince nevertheless found the means to gain the greatest number of the inhabitants, and the plurality of votes gave it for the worship of Minerva, that is to say, the preference to agriculture.

Yet we see in the circumstances of this fable, that spirit of vanity which, in the latter times, has brought the Greeks to invent the most extraordinary fictions to bring back to their gods the invention and merit of all the arts. They had received them from their first sovereigns, who coming out of policed countries, had brought into Greece the discoveries forgotten or unknown till their arrival. They had introduced at the same time the worship of the gods who were thought to be the authors of all these inventions. They insensibly confounded the history and motives of these establishments. The Greeks naturally vain, and lovers of the marvellous, perplexed the ideas and obscured tradition, to attribute to the divinities which they had created, the discovery of all the arts.

I have spoken in the first part of this work of the different methods invented originally to give light in the night. We  
have

have there seen that the more or the less industry in the ways which men invented to remedy the obscurity of darkness, distinguished barbarous people from polished nations. If this proposition is true, we may say, that, in this respect, the Greeks in the heroic ages did not differ any thing from the people of whom we now form the most disadvantageous idea. Their little industry had not permitted them to procure any of the proper means to give light easily and commodiously during the night.

The Greeks were not at that time ignorant of the art of making oil : yet they had not the use of lamps. They likewise knew wax and tallow, but had not found the secret to draw from them their principal utility. These people, at the times I am speaking of, were lighted only by fires which they had in their apartments<sup>r</sup>. The princes, and those who piqued themselves upon delicacy, burnt odoriferous woods<sup>s</sup>. Virgil has conformed to the custom of these ancient times, when he says that Circe made them burn cedar to light her<sup>t</sup>.

With regard to torches which are often mentioned and spoken of in Homer, they were pieces of wood split lengthwise, which they carried in their hand when they went in the night from one place to another<sup>u</sup>. I have shewn, in the first part of this work, the antiquity and the universality of this practice<sup>x</sup>. I shall add, that probably they employed for this use resinous woods.

Homer, indeed, has used on one occasion a term which at first sight would make us think the Greeks knew lamps in the heroic times. He tells us in the *Odyssey*, that Minerva took a vase of gold to light Ulysses<sup>v</sup>: but it is more than probable that this vase was not a lamp. In reality, there is never any thing spoken of by this poet which has any relation to these sort of machines: we see on the contra-

<sup>r</sup> *Odysse.* l. 6. v. 305. l. 18. v. 306. &c. l. 19. v. 63. &c.

<sup>s</sup> *Odysse.* l. 5. v. 59. & 60.

<sup>t</sup> *Urit odoratam nocturna in lumina cedrum.* *Æneid.* l. 7. v. 13.

<sup>u</sup> *Odysse.* l. 18. v. 309. 310. & 316.

<sup>x</sup> B. 2 chap. 1. art. 4.

<sup>v</sup> L. 19. v. 34.



ry, that on all occasions where he could have placed lamps, he only speaks of burning torches. Also the scholiasts believe, that the word which Homer has used to design the vase carried by Minerva, should be understood of a sheath of gold into which they had put a torch<sup>a</sup>. I should rather think that they meant a sort of chafing-dish into which they put pieces of wood to make the fire lively and clear. The Turks use even at this day to give them light, machines very like them<sup>a</sup>.

But be it as it would, we may be assured that there is no mention made in Homer of oil, of wax, or of tallow to give light. The Greeks in the heroic times never used tallow, or, to speak more properly, grease, but to rub and soften things which time had hardened<sup>b</sup>. With respect to wax, although they knew it, they employed it for quite another use than to burn\*. As to oil, they incontestably never used it but to anoint and rub themselves. I confess, that lamps being so ancient in Asia and in Egypt as we have seen<sup>c</sup>, it is very astonishing that the knowledge of them had not as yet got into Greece at the time of the war of Troy, but their ignorance in this respect is not less certain.

#### A R T I C L E IV.

##### *Of the culture of fruit-trees.*

**I**T is certain that the Greeks did not apply very early to the culture of fruit-trees. Figs and pears appear to

<sup>a</sup> Ad Odyss. l. 19. v. 34.

<sup>a</sup> Trev. Mars. 1721. p. 373.

Homer only designs what Minerva took to light Ulysses with, by the word *λύχνον*. It is certain, that, in the ages posterior to Homer, they constantly understood by *λύχνος*, a lamp; but I do not think, that, in Homer, that word ought to have the same signification; for he never speaks of oil for giving light. I should think then that *λύχνος*, in this passage, means a sort of chafing-dish, where they put little pieces of lighted wood. Moreover, this is the only time that the term *λύχνος* is found in Homer.

<sup>b</sup> See Odyss. l. 21. v. 178. &c.

\* They covered with wax, ships, tablets of wood to write on, &c. The only time it is mentioned in Homer, is on account of Ulysses, who, the poet says, used wax to stop the ears of his companions, to hinder them from hearing the voice of the Syrens. Odyss. l. 12. v. 173.

<sup>c</sup> Part. 1. b. 2. chap. 1. art. 4.

be the first sort of fruits which they knew<sup>d</sup>: we may add to these apples. We indeed see fig-trees, pear-trees, and apple-trees in the description<sup>e</sup> which Homer gives of the orchard of Laertes<sup>e</sup>, father of Ulysses. Figs particularly were regarded as the first aliment of agreeable taste which the Greeks used<sup>f</sup>. The different traditions which these people have propagated about the epoch in which they had known this fruit, prove, as I have already said, that the first principles of agriculture were very anciently known in Greece; that this art had suffered interruptions. Some in reality carry back the knowledge of the fig-tree to Bacchus<sup>g</sup>, and place that event under Pandion I.<sup>h</sup>, who reigned at Athens 1463 years before Christ. Others give this honour to Ceres<sup>i</sup>, whose arrival in Greece they fix in the reign of Erechtheus<sup>k</sup>, 1426 years before the Christian æra. But, following another tradition, the Greeks had known the fig-tree long before these epochs. This tradition imported, that Syceus, one of the Titans, son of the earth, being pursued by Jupiter, the tender mother had made the fig-tree come out of her bosom to serve for an asylum and the nourishment at the same time of this well-beloved son<sup>l</sup>.

All these variations make us see that the Greeks had received some knowledge of agriculture under the dominion of the Titans. The troubles which arose upon the death of these princes, made them neglect the culture of the earth, which the new colonies that came out of Egypt and Phœnicia restored again to honour in Greece, about the commencement of the ages we are now running over.

We cannot enter into any detail of the manner in which the Greeks cultivated fruit-trees in the heroic times. There is nothing can instruct us in it: I think they were at that time very ignorant in this part of agriculture. They have not thought fit to reduce it into precepts. I fancy I have

<sup>d</sup> Ælian. var. hist. l. 3. c. 39.; Plut. t. 2. p. 303. A.

<sup>e</sup> Odys. l. 24. v. 337. &c.

<sup>f</sup> Athen. c. 5. p. 78.

<sup>g</sup> Paus. l. 1. c. 37. p. 89.

<sup>h</sup> Athen. l. 3. c. 5. p. 78.

<sup>i</sup> Athen. l. 3. c. 2. p. 74.

<sup>j</sup> Apollod. l. 3. p. 197.

<sup>k</sup> Marm. Oxon. ep. 12.



sufficiently proved elsewhere, that the art of grafting was then absolutely unknown<sup>m</sup>. To the proofs which I have given, we may add the reflection which Hesiod made with respect to olive-trees. This author, according to Pliny<sup>n</sup>, said that no man had ever seen the fruit of the olive-tree which he had planted; a sign that in his time the Greeks yet understood very little of the culture of fruit-trees.

I shall observe further on the subject of fig-trees, that the tree to which they gave that name in Greece, was not of the same species with that which grows in our climates. That sort of fig-tree is much more fertile than ours<sup>o</sup>, but its fruits cannot come to maturity before they have been pricked by insects, which ingender in the fruit a certain sort of wild fig, called by the ancients *Caprificus*. Thus they took great care to plant them on the sides of their domestic fig-trees<sup>p</sup>. This custom is continued even at this time in the isles of the Archipelago<sup>q</sup>. We must observe further, that these sort of figs are far from being comparable to ours, for goodness and delicacy<sup>r</sup>.

I think I can add to this article some other practices which have a great relation to agriculture, taken from the general idea of the productions and labours of the country.

The most common and the most ordinary arts are not certainly the least useful. Strabo, speaking of the ancient inhabitants of Great Britain, observes that these people who had many herds, did not know the art of curdling the milk, and making it into cheese. He gives, with great reason, this fact as a mark of the grossness and ignorance of that nation<sup>s</sup>. The Greeks, in the ages we are at present speaking of, were not so destitute of knowledge. They were instructed in the art of making cheeses. Homer speaks often of them<sup>t</sup>. The Greeks pretend to have been indebted for

<sup>m</sup> See *supra*, chap. 1. p. 86. & 87.

<sup>n</sup> L. 15. sect. 2. p. 732.

<sup>o</sup> Tournefort, voyage du Levant, t. 1. p. 340.

<sup>p</sup> Arist. hist. animal. l. 5. c. 32. p. 857.; Theophrast. de caus. plant. l. 2. c. 32. p. 246.; Plin. l. 15. sect. 21. p. 747.; Athen. l. 3. c. 4. p. 76. 77.

<sup>q</sup> Tournefort, *loco cit.* p. 338. &c.

<sup>r</sup> Ibid. p. 340.

<sup>s</sup> L. 4. p. 305.

<sup>t</sup> Iliad. l. 11. v. 638.; Odyss. l. 7. v. 225.

that knowledge to Aristeus King of Arcadia<sup>u</sup>. He had, say they, moreover taught them the art of raising bees, and making use of their honey<sup>x</sup>. I should doubt much of this last fact. It appears that in the heroic times they did not know in Greece the use of hives. We may conjecture this from a passage in which Homer compares the army of the Greeks to a swarm of bees. He does not make them come out of a hive, but out of the cliffs of a rock<sup>y</sup>.

## C H A P. II.

## Of Cloathing.

THE manner in which the first inhabitants of Greece were clothed, answered to the grossness of their manners. The skins of beasts which they killed in the chase served them for covering; but not knowing the art of preparing these skins, they wore them quite rough, and with the hair on<sup>z</sup>. The only ornament which they could imagine, was to wear the fur without<sup>a</sup>. The sinews of animals served them for thread. Thorns without doubt held the place of needles and bodkins. There remain yet in the writings of Hesiod traces of these ancient customs<sup>b</sup>.

We are ignorant in what time the Greeks learned the art of giving to skins convenient preparations, as to tan them, to curry them, &c. Pliny makes one Tychius, a native of Bœotia<sup>c</sup>, author of this invention, without marking in what

<sup>u</sup> Justin. l. 13. c. 7.

Aristeus had married Autonoe, daughter of Cadmus. *Hesiod. Theog.* v. 977.; *Diod.* l. 4. p. 324.

<sup>x</sup> *Diod.* Justin. *locis cit.*

<sup>y</sup> *Iliad.* l. 2. v. 87. &c. We find indeed in Hesiod, *Theog.* v. 594. & 598. these words *σμῆνος* and *σίμῳλος*, used afterwards to mean the hives where the bees make their honey. But independently of these two words not being found in Homer, and that we have many reasons to think Hesiod posterior to this poet, I would not even conclude from the words of Hesiod, that the Greeks knew in his time the art of gathering the bees into hives. If this practice had been known in the ages in which Hesiod wrote, he would probably have given some precepts, as Virgil has done in his *Georgics*.

<sup>z</sup> *Diod.* l. 2. p. 151.; *Paus.* l. 8. c. 11. p. 599.

<sup>a</sup> *Paus.* l. 10. c. 38. p. 895.

<sup>b</sup> See Hesiod. *opera.* v. 544.

<sup>c</sup> *I.* 7. *sect.* 57. p. 414.



age this artist lived. Homer speaks of a workman of this name greatly celebrated, in the heroic times, for his skill in preparing and dressing skins. Among other works he had, says he, made the shield of Ajax<sup>c</sup>. Yet there is no appearance that this should be the same person to whom Pliny has attributed the invention of currying skins. This art must have been known in Greece long before the war of Troy; but it is not possible to determine precisely the epoch.

It is not the same with respect to weaving. I think we may very well refer this establishment in Greece to the time of Cecrops. This prince came from Egypt, where the art of spinning wool, and the art of making stuffs, was known very anciently. He made known this invention to the inhabitants of Attica. The few memoirs which now remain to us of the origin of weaving in Greece, agree very well with this conjecture. The Athenians were looked upon in antiquity as the first who had known the art of making stuffs of wool and flax. They are said even to have communicated these discoveries to all Greece<sup>d</sup>. We likewise know that Athens in all times has been renowned for the skill of its inhabitants in weaving. The quality of the soil of Attica contributed much to the rapid progress which this art made among these people. The wool of that country was reckoned, in the judgment of the ancients, the best that was known<sup>e</sup>.

It is very important for the quality of the wool to keep the sheep in very great neatness. We could not carry our attention farther, in this respect, than certain people of Greece carried it. To procure the finest and best-conditioned wool, their precaution went so far as to cover the skins of their sheep<sup>f</sup>, lest the injuries of the air should alter the fleece, and lest they should contract any dirt.

We see by the manner in which the Greeks anciently stript their sheep of their wool, how imperfect the mechanic arts were among those people in the early times. There is a certain time of the year when the wool of the sheep

<sup>c</sup> *Iliad*. l. 7. v. 220. &c.

<sup>d</sup> *Justin*. l. 2. c. 6.

<sup>e</sup> See *Vossius de idol.* l. 3. c. 70.

<sup>f</sup> *Ælian*, var. hist. l. 12. c. 56.; *Diog. Laert.* l. 6, segm. 41. p. 335.



comes off of itself. The Greeks took advantage of that time to procure the wool of these animals, and tore it off <sup>r</sup>. It was because they wanted sheers at that time, or other instruments proper for that operation. This custom did not subsist in the time of Hesiod, they knew then to shear their sheep <sup>s</sup>.

I have said, in the first part of this work, that anciently the mechanics were disposed in such a manner that they could only work standing <sup>i</sup>. This custom subsisted still in Greece to the heroic times, Homer not permitting us to doubt of it <sup>k</sup>. Moreover, the stuffs which they then made, were very badly prepared. They had not yet found the art of fulling them. That art was not known in Greece till some time after the ages which we are at present speaking of. They give the honour of it one Nicias of Megara <sup>l</sup>.

A very curious question presents itself to us on this subject, the examination of which deserves some attention. Homer gives us to understand, that at the time of the war

<sup>s</sup> Varro, de re rust. l. 2. c. 11.; Plin. l. 8. sect. 73. p. 474.; Isidor. orig. l. 19. c. 27.

<sup>h</sup> Op. & Dies, v. 775.

<sup>i</sup> B. 2. chap. 2.

<sup>k</sup> Iliad. l. 1. v. 31. See Jun. de pict. veter. l. 1. c. 4. p. 26.

It may be objected what Homer says of the Phaeacians, Odyss. l. 7. v. 105. & 106.

Αἱ δ' ἰσῆς ὑφάωσι καὶ ἡλάκατα στρωφῶσιν

<sup>l</sup> Ἥμεναι, . . . .

and from thence conclude, that, in the heroic times, the women had already quitted the troublesome custom of working standing. But there is the greatest reason to think, that the word Ἥμεναι ought only to refer to those that spun, and not to those that worked at any trade. This is the more certain, as Eustathius, to whom this passage was not unknown, says positively, in commenting on the 31st verse of the 1st book of the Iliad, that, in the times of Homer, the women did not yet work sitting.

<sup>l</sup> Plin. l. 7. sect. 57. p. 414.

Pliny, by saying that this Nicias was of Megara, gives us to understand, that the art of fulling stuffs was not known till after the ages of which we now speak. Megara, in reality, according to Strabo, had not been built till after the return of the Heraclidae, l. 9. p. 965.

It is true, that we find in Pausanias, l. 1. c. 39. that Megara was built before the Heraclidae, and that they only repaired it. But the testimony of Pausanias ought not to overbalance that of Strabo, whose exactness is acknowledged by the whole world. This is also the sentiment of Velleius Paterculus, l. 1. n. 2. p. 4.



of Troy, they used oil in the preparation of their stuffs <sup>m</sup>. But what was the end of this practice? In what could it consist? Was it to gloss the stuffs, to give them more fineness, or to make them impenetrable to rain or bad weather? This is very difficult to determine in a clear and precise manner: the poet has not entered into any detail or any explication of these different objects. We learn by the modern travellers, that, in China and the East Indies, it is still a practice to use oil for the preparation of many stuffs. What they have said of them will, I believe, give some light on the question we are about.

When the Chinese go a journey, they have a custom of taking with them a sort of habits, of which the stuff is of a thick taffety done over with many layers of thick oil. This oil has the same effect on these stuffs that wax has on our cloths. They render them impenetrable to the rain <sup>n</sup>. The Chinese have another way of using oil. They use it to give to their satins a very lively and very shining lustre <sup>o</sup>. This last process comes near enough to that which they follow in the East Indies for the making of these beautiful cotton stuffs which come to us from those countries. The last preparation which they give to the thread of which they are made, is to rub them with oil <sup>p</sup>.

Perhaps also the Greeks used oil, and the heat of the fire to draw the worsted, and spin their wool more finely and more easily. The stuffs made of these threads dipt in oil, were afterwards scoured by the means of salts and other preparations which they used in fulling it. We may chuse, among these different practices, those which we shall think most agreeable to the text of Homer; for there is room to conjecture, that he meant some preparation nearly like those which I have shewn. What is more certain, is, that these passages of Homer are almost unintelligible.

<sup>m</sup> *Iliad*. l. 18. v. 595. & 596.; *Odyss.* l. 7. v. 107.

<sup>n</sup> *Memoire sur la Chine* du P. le Comte; t. 1. p. 246.

<sup>o</sup> *Ibid.* p. 102.

<sup>p</sup> *Lettr. edif.* t. 15. p. 400. and 401.

## C H A P. III.

*Of Architecture.*

THE Greeks were not the inventors of architecture, if, by that word, we understand simply the art of joining together materials, and composing of them edifices for the convenience and different uses of life. All policed people have had in this part of the arts, lights pretty near equal. Necessity suggested to them the same ideas and almost the same practices, although relative to the temperature of the seasons and the influence of the air proper to each climate.

But architecture does not consist solely in the work of the hands, and in a simple mechanic labour. It ought on many occasions to endeavour to produce the greatest effects, to join elegance with majesty, and delicacy with solidity. It is taste and intelligence which ought then to direct the operations.

Neither Asia nor Egypt can pretend to the glory of having invented, or even of having known the true beauties of architecture. The genius of these nations turned towards the gigantic and the marvellous, was more taken with the enormous size and prodigiousness of a building, than with the graces and nobleness of its proportions. It is easy to judge of this by what now remains to us of the monuments raised in the east, and by the description the ancients have given us of those which exist no more \*.

It was from the Greeks that architecture has received that regularity, that order, that entireness which are able to charm our eyes. It was their genius which brought forth those magnificent and sublime compositions which we are never weary of admiring. We owe to them, in a word, all the beauties of which the art of building is capable. In this sense, we may say the Greeks have invented

\* I shall insist more particularly on the taste of the eastern people in architecture, in the article of arts in the third part of this work.



architecture. They have borrowed nothing with regard to it from other nations. It is an art which they have entirely created. Greece has furnished the models and prescribed the rules which they afterwards followed when they would execute monuments worthy to descend to posterity. We find, in the three orders of Grecian architecture, all that art can produce either for majesty, elegance, beauty, delicacy, or solidity \*.

Architecture, the same as the other arts, had but a very poor beginning among the Greeks. Their houses in early times were only simple cabins, constructed in a rude and gross manner built of earth and clay <sup>a</sup>. They very much resembled the dens and caverns which these people so long had dwelt in <sup>r</sup>. They found afterwards the art of making and burning bricks, and with them to build houses. The Greeks give the honour of that invention to two inhabitants of Attica named Eurialus and Hyperbius <sup>r</sup>. They were brothers: this is all we know of their history. We are ignorant in what time they lived.

The different colonies which came from Asia and Egypt successively to settle in Greece, contributed to the progress of architecture. The chiefs of these new colonies gathered the people of many districts to build cities and towns, and accustomed their new subjects to lead a sedentary life. The origin of these establishments ascends to very early times. We have seen in the first part of this work, that the cities of Argos and Eleusis owed their foundations to the first sovereigns of Greece <sup>r</sup>. They had even, as I have already said, begun to build temples <sup>u</sup>.

The first monuments which the Greeks raised, shew us the grossness and the little knowledge they had in the art of building anciently. The temple of Delphos, so renowned since for its magnificence, and which, even in the times

\* See a parallel of the ancient architecture with the modern; by M. de Chambray, p. 2.

<sup>a</sup> Plin. l. 7. sect. 57. p. 413.

<sup>r</sup> Id. *ibid.*; Æschyl. *in* Prometh. vincito, v. 449. &c.

<sup>r</sup> Plin. l. 7. sect. 57. p. 413.

<sup>r</sup> Book 1. chap. 1. art. 5.

<sup>u</sup> *Ibid.* book 2. chap. 3.

we now speak of, was famous for the riches it contained \*, the temple of Delphos was originally only a simple thatched building covered with branches of laurel †.

In the time of Vitruvius they saw still at Athens, the remains of a building in which the Areopagi assembled in the beginning of their institution. This edifice equally gross and unformed, consisted of a sort of cabin covered with fods ‡. Such was anciently the manner in which the Greeks built.

Architecture could scarce have made any progress among those people before the arrival of Cadmus. The Greeks had forgot the art of working of metals, of which the Titan princes had shewn them the first elements §. It was Cadmus, who, at the head of his colony, brought back into Greece so necessary a knowledge. He did more : he taught these people the art of procuring stones from the bosom of the earth, the manner of cutting them ¶, and using them for the construction of buildings.

We meet with almost unsurmountable contradictions when we will critically inquire into and discuss the knowledge which the Greeks had of architecture in the ages which we are going over at present. We may judge of this by the exposure of the facts which the writers of antiquity have transmitted to us on this subject.

If we refer to the testimony and the taste of Pausanias, we must be obliged to place in the infancy of the arts among the Greeks, the most wonderful monuments which these people had raised. That author speaks of an edifice that Mynias King of Orchomena built to shut up his treasures \*\*,

\* Iliad l. 9. v. 404. & 405. ; Plin. l. 3. sect. 20. p. 173.

† Paus. l. 10. c. 5.      § Vitruv. l. 2. c. 1.      \*\* See *infra*, chap. 4.

‡ Plin. l. 7. sect. 57. p. 413. ; Clem. Alex. Strom. l. 1. p. 363.

¶ L. 9. c. 36.

Mynias might reign about 1377 years before Christ. Pausanias, in effect, places the reign of this prince four generations before Hercules, l. 9. c. 36. & 37. As this historian reckons twenty-five years for a generation, Mynias should have preceded the birth of Hercules about 100 years, which we may fix about seventy years before the taking of Troy.



and of the walls of Tyrinthus built by Prætus <sup>d</sup>, as works worthy the admiration of all ages. He does not fear to put them in competition with the pyramids of Egypt; but I think this sentiment appears to me to labour under many difficulties.

The edifice constructed by Mynias was a sort of rotunda, a little flatted. All the building rested on a stone which was the centre of the arch. It served for a key to the whole work, on which rested all the parts. The whole monument was built of marble <sup>e</sup>. The walls of Tyrinthus were built of rough stones, but so large, that, according to Pausanias, two mules could with difficulty draw the least of them. Little stones put in between these great ones, filled up the intervals <sup>f</sup>. See what were the monuments which this author, as I have already said, compares to the pyramids of Egypt.

To judge of these works, even from the description of Pausanias, we see nothing in them to be so much cried up. Besides, he is the only one who has mentioned them. Homer, Herodotus, Apollodorus, Diodorus, and Strabo, who had had so many occasions to speak of the monuments of Greece, say nothing of the building of Mynias. With respect to the walls of Tyrinthus, they tell us, that they had been built by the workmen that Prætus brought from Lycia <sup>g</sup>. Further, they only represent that place as a small citadel raised by Prætus in an advantageous post to serve him for a retreat <sup>h</sup>. Yet we shall not suspect, that these authors have despised the monuments of Greece, and still less that they have neglected to speak of them. Lastly, let us observe, that, according to Pausanias, the edifice raised by Mynias was arched, a fact no way credible, especially as it was constructed of marble: yet there is great appearance, that, even at the time of Homer, the Greeks did not know to

<sup>d</sup> Paus. l. 9. c. 36.

Prætus was brother of Acrisius, whose reign falls in the year 1379 before Christ.

<sup>e</sup> Paus. l. 9. c. 38.      <sup>f</sup> Id. l. 2. c. 25.

<sup>g</sup> Apollodor. l. 2. p. 68.; Strabo, l. 8. p. 572.

<sup>h</sup> Iliad. l. 2. v. 559.; Apollod. l. 2. p. 68.; Strabo, l. 8. p. 572.

work marble. We do not find in his poems any word to characterise and distinguish it from other stones. If marble had been then known, could Homer have forgot it in the description of the palace of Alcinous, and above all, in the palace of Menelaus, where he says there shone gold, silver, tin, ivory, and the most rare productions <sup>i</sup>.

Lastly, it is very difficult to reconcile the date of these monuments with the epoch which the Greeks assign for the invention of almost all the instruments necessary for the construction of edifices. If we believe the greatest part of the authors of antiquity, they owe to Dædalus the plane, the saw, the wimble, the square, and the manner of taking and finding of levels by means of a plummet. It is true, that Dædalus divided with his nephew Talus, Calus, Attalus, or Perdix, (for authors differ about his name), one part of the glory of these inventions <sup>k</sup>. The mother of this young man had intrusted Dædalus to instruct him in the secrets of his art. He had moreover more genius and industry than his master. At the age of twelve years, having met with the jaw of a serpent, and having used it with success to cut a little piece of wood, that adventure gave him the idea of making an instrument which imitated the sharpness of the teeth of that animal. He took for this business a sheet of iron, and cut it after the model of these little teeth, short and thick set, which he had remarked in the serpent. It was thus that he found the saw <sup>l</sup>. They also attribute to him the invention of the compass, of the throw, and the potter's wheel <sup>m</sup>. History adds, that Dædalus was not exempt from the low jealousy which has at all times been the vice of artists, even of those who professed the most noble and most elevated arts. Apprehending that he should be outdone by his disciple, he destroyed him.

<sup>i</sup> Odyss. l. 4. v. 72. &c.

As the interpretation of the word *ῥακτερον* used in this description is liable to be disputed, I have not thought proper to give it a determinate signification.

<sup>k</sup> Diod. l. 4. p. 319. & 320. ; Hygin. fab. 274. ; Ovid. metam. l. 8. v. 241. &c. Plin. l. 7. sect. 57. p. 414.

<sup>l</sup> Diod. l. 4. p. 319. & 320. ; Hygin. fab. 274. ; Ovid. metam. l. 8. v. 241. & seq.

<sup>m</sup> Id. ibid.

Although



Although it be thus in this little history, Dædalus, by the confession of all chronologists, is posterior to the edifices which I have just mentioned. Yet how could they imagine he should build without the help of instruments, which they say had been invented either by that artist or by his nephew?

Further, there is great reason to doubt, whether these practices were known, even in the ages in which historians have placed these discoveries. To judge of the reality of facts, and what to think of the tools used in the heroic times among the Greeks, it is Homer we ought to consult. We shall see that he does not seem to have any idea of the greatest part of the inventions attributed to Dædalus or his nephew. Without reckoning many places in his poems, where he had occasion to speak of the saw, the compass, and the square, the vessel which he caused to be built for Ulysses in the isle of Calypso, afforded him a fine field to speak of all the tools of which he could have any knowledge. These nevertheless which he gives to his hero, only consist of a hatchet that cut at both ends, a plane, wimbles, a level, or a rule to make the wood straight <sup>n</sup>. There is no mention of the square, the compass, or even the saw. This last instrument would yet have been the most necessary for Ulysses for the construction of his ship. Shall we presume, that Homer neglected to give one to the King of Ithaca <sup>\*</sup>? We cannot say, that this prince may be thought to have wanted tools necessary and proper for the work which he undertook. The poet has not placed him in a desert and abandoned island. Ulysses was then with a goddess in a capacity of supplying him with all the helps of which he stood in any need. There is great room to believe, that Homer gives to his hero all the tools that were in use at this time. Since there is no mention made of the square, the compass, or the saw, we ought to presume, that these instruments were not yet invented. The Greeks, in the heroic times,

<sup>n</sup> Odyss. l. 5. v. 234. & 245. &c.

<sup>\*</sup> The word *πρίον*, which in Greek signifies a saw, is not found in Homer, nor any thing equivalent to it,

were almost as destitute of mechanical knowledge as the people of the new world. The Peruvians, whom we may look upon in many respects as a policed nation, were ignorant of the use of the saw <sup>o</sup>. We know even at this time, many people to whom this instrument is unknown <sup>p</sup>. They supply it by different means. They cleave the trunks of trees into many parts by means of wedges of stone. Afterwards they fashion each piece with hatchets, and thus they come, with difficulty, to make planks <sup>q</sup>. The Greeks must then have used very near the same method <sup>r</sup>.

The doubts which I have raised about the inventions attributed to Dædalus, have engaged me to propose some on the monuments of which he is looked upon as the author.

They make him travel into Egypt to be instructed and perfected in the arts. He profited so well by the lessons which he received there, that he surpassed in a little time, say they, the most able architects of that country. They chose him to construct the vestibule of the temple of Vulcan at Memphis <sup>s</sup>. He executed it in a superior manner. This work acquired its author so much glory, that they placed in the temple his statue in wood made by himself <sup>t</sup>. They did more. The genius and invention of Dædalus placed him in so high a reputation among the Egyptians, that these people decreed to him divine honours. If we should believe Diodorus, there subsisted, even in his time, a temple consecrated under the name of this famous artist in one of the isles bordering upon Memphis. This temple, adds he, was in great veneration through all the country <sup>u</sup>.

It was not only in Egypt that Dædalus exercised his talents: he had left in many countries the testimonies of his skill in architecture. He built at Cumæ, on the coast of Italy, a temple to Apollo, in acknowledgment of his happy escape

<sup>o</sup> See part 1. book 2. chap 3.    <sup>p</sup> Lettr. edif. t. 18. p. 328.

<sup>q</sup> Part 1. book 2. chap. 3.; Voyage de Dampier, t. 2. p. 10. t. 4. p. 236.

<sup>r</sup> See Virgil. georg. l. 1. v. 141.    <sup>s</sup> Diod. l. 1. p. 179.    <sup>t</sup> Id. ibid.

<sup>u</sup> Id. ibid.



from Crete. They boasted of the architecture of this temple as very beautiful and very magnificent \*.

In the residence which Dædalus made in Sicily, he embellished that isle with many works equally useful and ingenious: he built among others on the height of a rock a very strong citadel, and made it absolutely impregnable \*. Mount Erix was so steep, that the houses which they had been obliged to construct near the temple of Venus, appeared ready to fall every moment down the precipice. Dædalus augmented the size of the summit of that mountain by means of earth he brought there, and supported it with a wall \*. He dug also near Megara in Sicily a grand pond, through which the river Alabon discharged itself into the sea \*. His industrious genius shone still more in the construction of a cavern which he dug in the territory of Selinunta: he knew how to manage and employ with so much art, the vapour of the subterraneous fires which came from thence, that the sick people who entered into that cavern, soon perceived themselves thrown into a gentle sweat, and were cured insensibly, even without finding any inconveniency from the heat \*. Diodorus adds, that Dædalus made in Sicily many other works which the injuries of time have destroyed.

But these monuments, however commendable they might be, ought not to be put in comparison with the famous labyrinth which he made in the isle of Crete. This work alone would have been sufficient to immortalize the name of Dædalus. Ancient tradition says, that he had taken the model and the design from that which we see in Egypt; but he had only executed an hundredth part of it \*. Dædalus had confined himself to imitate the entrance of the labyrinth of Egypt, where we met with such a surprising number of turnings and windings, so difficult to remark, that it was not possible to get out when we were once en-

\* Virgil. *Æneid.* l. 6. v. 17. & seq.; Sil. Ital. l. 12. v. 102.; Aufon. *Idyll.* 10. v. 300. & 301.

† Diod. l. 4. p. 321.

‡ Id. *ibid.*

<sup>a</sup> *Ibid.*

<sup>b</sup> *Ibid.*

<sup>c</sup> *Ibid.* p. 320. & l. 1. p. 71.; Plin. l. 36. sect. 19. p. 739.

gaged among them : and it must not be imagined, says Pliny, that the labyrinth of Crete had a resemblance to those which we execute in gardens, where, by means of a great number of multiplied alleys, we find the secret of making many ways in a very small space. The labyrinth of Crete was a very spacious edifice, distributed into a number of separate pieces, which had on all sides openings and gates, the number and confusion of which hindered us from distinguishing the way out. This is what the ancients have related of the works executed by Dædalus.

It appears at first sight very singular, that such like edifices should have been built in ages so gross and so ignorant as those of which we are speaking at present : it is still more surprising, that one single man should have been equal to so many labours of such different kinds, and these executed in countries so distant from each other \*. Nothing, at first sight, appears to be better established, than the long possession in which Dædalus has been supported to the present time of having been a universal genius. The fact is attested by a croud of authors as well Greek as Roman. Their testimony nevertheless does not persuade me, and I think, that all that the writers of antiquity have handed down to us on this subject, may be founded on no reality.

How could we persuade ourselves in effect, that the Egyptians, who avoided all commerce with other nations †, should have chose a stranger to decorate the temple of their principal divinity ? This single consideration would suffice to render the fact very dubious ; but it entirely destroys it, when we see that Herodotus, who speaks of the same monument ‡, does not speak a word of Dædalus, nor of his stay in Egypt. I pass over in silence the other works attributed to this artist, of which I could equally make a criticism : I confine it to the labyrinth of Crete, an edifice so boasted of by the ancients, and which appears alone to have caused the greatest reputation of Dædalus.

\* In Greece, in Egypt, in Crete, in Italy, &c.

† See Herod. l. 2. n. 91. ; see also part. 1. book 6.

‡ L. 2. n. 101.



Let us examine the age of the authors who have made mention of this monument, and we shall see that they all lived more than 1200 years after the time to which they have referred its construction. Besides, they only speak by tradition: they agree, that though the labyrinth of Egypt existed still in their times, that of Crete was destroyed<sup>f</sup>. Neither are they agreed as to the form and species of this work. Diodorus and Pliny say, that the labyrinth of Crete was an immense edifice, and of a wonderful structure<sup>g</sup>. But Philocorus, a very ancient author, did not think the same. It was, in his opinion, a prison where the criminals were shut up very safely<sup>h</sup>. Cedrenus and Eustathius advance, that this so boasted monument was only a cave where they found many avenues, turnings, and windings, and that art had helped nature a little<sup>i</sup>. This sentiment is confirmed by M. de Tournefort, who, in the year 1700, visited these places with great exactness<sup>k</sup>. The testimony of this able traveller, joined to the diversity of opinions which reign among the authors who have spoken of the labyrinth of Dædalus, shews the little regard we ought to pay to their recitals. Let us finish by giving the proof.

Why has not Homer, who was, without comparison, much nearer to the age of Dædalus than all these writers, said any thing of the labyrinth of Crete? If such a work had existed in his time, is it to be believed, that he would have passed it in silence? He who so often makes mention of the isle of Crete, he who very seldom fails to give to the cities and the countries of which he speaks some epithets, which are always taken from their arts or their natural history? But further, Homer speaks of Dædalus<sup>l</sup>, and of the taking away of Ariadne by Theseus<sup>m</sup>; but he does not speak one word of the labyrinth. Yet an occasion of speak-

<sup>f</sup> Diod. l. 1. p. 71. ; Plin. l. 36. sect. 19. p. 740.

<sup>g</sup> Diod. l. 1. p. 71. ; Plin. l. 36. sect. 19. p. 740.

<sup>h</sup> *Apud* Plut. *in* Thes. p. 6.

<sup>i</sup> Cedren. p. 122.

<sup>k</sup> Voyag. du Levant, t. 1. p. 65. &c.

<sup>l</sup> *Iliad*, l. 18. v. 590. &c.

<sup>m</sup> *Odyss.* l. 11. v. 320. &c.

ing of it presents itself too naturally for the poet to let it escape him, if the tradition about that monument had had place in his time.

Herodotus, who, after Homer, is the most ancient writer which now remains to us of antiquity, has likewise kept a profound silence about the monument of Crete. Yet he speaks of Minos: he relates, that that prince died in Sicily about the time when he pursued Dædalus<sup>n</sup>. He might have made some digression on this occasion, on the adventures and works of that artist; and we cannot reproach Herodotus of losing occasions to entertain his readers with curious and interesting anecdotes. For what reasons then, describing the labyrinth of Egypt, should he say nothing of that of Crete? It was nevertheless the place to call it to mind, by so much the more, as, on this subject, he cites the celebrated works on which Greece plumes itself<sup>o</sup>: Herodotus then would not have forgot a monument, which, though inferior to that of Egypt, would not have failed to have done honour to the Greeks.

Pausanias, who has, moreover, entered into a grand detail of the works attributed to Dædalus, does not say, that the labyrinth of Crete had been constructed by that famous artist. Lastly, if it is true, as I hope to shew, that the labyrinth of Egypt, from which all these authors avow that Dædalus had taken the model of his, was not constructed till above 600 years after the time we now speak of<sup>p</sup>, they will grant how little reality there was in the monument of Crete. This is also the sentiment of Strabo. He gives us to understand very clearly, that all that the Greeks have uttered of the labyrinth and of the minotaur, was only a fable<sup>q</sup>. I think further, that it is the same  
with

<sup>n</sup> L. 7. n. 170.

<sup>o</sup> L. 2. n. 148.

<sup>p</sup> See part 3. book 2.

<sup>q</sup> L. 10. p. 732. & 731.

We find, it is true, ancient medals and ancient stones, on which this labyrinth is represented with its turnings and windings. We see the minotaur in the middle of that edifice. See Goltzius, Aug. tab. 49. 11.; Montfaucon, *antiq. exp. liquée*, t. 1. p. 76.

These monuments would then equally prove the existence of the minotaur and the labyrinth. I doubt whether any one would maintain at this



with all the inventions attributed to Dædalus. They are pure imaginations, founded on some idioms of the Greek language<sup>r</sup>.

I shall not enter into a particular detail of the manner in which the houses of private persons were then built: Homer only supplies us with slight hints on this object. We are very little assured of the signification of the greatest part of the terms which he uses to design the different parts of an edifice. We see that anciently the roofs were a terrace<sup>r</sup>. This was a custom almost general in all the east. But the practice of the Greeks, of making the doors of their houses open outwards into the street<sup>r</sup>, must appear very singular: they were obliged each time they wanted to go out, first to make a noise against the door, to give notice to passengers to keep at a distance<sup>u</sup>.

It is very difficult to comprehend, and still more to explain, the manner in which, according to Homer, the doors could be opened and shut. We see plainly, that the locks and the keys which the Greeks used, did not resemble ours; but it is not easy to comprehend the contrivance and the mechanism of these instruments. We may conjecture, that there was on the inside of the door a sort of bar, or bolt, which they could let down or raise up by means of a latchet<sup>x</sup>. The keys which they used for this purpose were made in the manner of a pick-lock; it was a piece of copper pretty long, turned like a sickle, and had a handle of wood or ivory<sup>y</sup>. There was in the door a hole

time that there really existed a monster, such as these medals and ingraven stones represent to us. We ought to put the labyrinth of Daedalus and the minotaur among the number of those popular traditions which certain cities adopted, and with which they loved to decorate their monuments.

<sup>r</sup> Δαίδαλος signifies in general a workman very *ingenious*, very *able*, and even a work made with *art*. This is an observation which has not escaped Pausanias. He adds, that they gave the name Δαίδαλος to ancient statues of wood, even before Daedalus, l. 9. c. 3.

<sup>s</sup> Odyss. l. 10. v. 552. &c.

<sup>t</sup> Odyss. l. 21. v. 391. See Madam Dacier's notes.

<sup>u</sup> Phot. p. 196.; Terent. Andria, act 4. scen. 1. v. 687.

<sup>v</sup> The Andrian was translated from Menander, and the scene was at Athens.

<sup>x</sup> Odyss. l. 1. v. 441. 442. l. 4. v. 802.

<sup>y</sup> Odyss. l. 21. v. 6. & 7. We may see the figure of those keys in the remarks of M. Huet, in Manil. l. 1. p. 8.

which

which was just under the bolt : they put in the key by the hole, and seized on the latchet which held the bolt ; and so lifted it up, and opened the door. The locks which the negroes of Guinea use at this time, may give us some idea of all this mechanism<sup>2</sup>, almost unintelligible in the writings of the ancients.

It appears, that, in the heroic times, they were very curious to adorn and enrich the inside of their houses. The apartments of the palace of Menelaus were very sumptuous and very magnificent<sup>3</sup> : but there is great reason to think they did not then know the art of decorating the buildings on the outside. Of all the edifices described by Homer, not one of them presents us with what may be called the ornaments of architecture. This poet only speaks of porticoes<sup>4</sup>, and yet we have not a sufficiently clear idea of these sorts of works. We are ignorant of what could have been their structure and disposition. The use which the Greeks then made of these porticoes is absolutely contrary to what we now understand by that sort of building. It was in effect under these porticoes that they lodged their friends and other strangers of consideration<sup>5</sup>. This reflection suffices to destroy the ideas which that name naturally presents in our language ; and we must agree, that we cannot explain at this time what Homer understood by the word which we commonly translate by that of portico<sup>6</sup>.

From all that I have said, it follows, that we can determine nothing of the state and the progress of architecture in Greece for the ages we are at present about. We should not be in this difficulty, if we would adopt the sen-

<sup>2</sup> Nouv. relat. de la France Equinox, p. 143. & 144.

<sup>3</sup> Odyss. l. 4. v. 72 &c.

<sup>4</sup> Ibid. l. 4. v. 297. & 302.

<sup>5</sup> Iliad. l. 24. v. 644. ; Odyss. l. 4. v. 297.

<sup>6</sup> It is only by a sort of tradition that we are used to translate by the term *portico*, the word *αιθρα*, used by Homer in the description of these palaces. The grounds of that explication are entirely unknown to us. It is plain, that *αιθρα* comes from *αιθω*, *αιω*, *lucet* ; but it is not equally proved, that they were formerly in constant use, as the scholiasts say, that they lighted fires under the porticoes of great houses. It is, notwithstanding, on this pretended use that they ground their explication.



timent of Vitruvius on the origin and the epoch of the different orders of architecture invented by the Greeks. “Anciently,” says he, “they were ignorant of the art of proportioning the various parts of a building: they used columns, but they cut them at hazard, without rules, without principles, and without having any attention to the proportions which they ought to give them: they placed them likewise without any regard to the other parts of the edifice. Dorus, son of Helen and grandson of Deucalion \*, having caused a temple to be built at Argos in honour of Juno; that edifice was found by chance to be constructed according to the taste and the proportions of the order which afterwards they called Doric. The form of this building having appeared agreeable, they conformed to it for the construction of edifices which they afterwards had to build <sup>d</sup>.

“About the same time,” adds Vitruvius, “the Athenians sent into Asia a colony under the conduct of Ion, nephew of Dorus †: this undertaking had very good success. Ion seized on Caria, and there founded many cities: these new inhabitants thought to build temples. They proposed for a model that of Juno at Argos; but ignorant of the proportion which they ought to give to the columns, and in general to the whole edifice, they sought for rules capable of regulating their operation. These people wanted, in making their columns sufficiently strong to support the whole edifice, to render them at the same time agreeable to the sight. For this purpose, they thought to have given it the same proportion that they found between the foot of a man and the rest of his body. According to their ideas, the foot made a sixth part of the human height: in consequence, they gave at first to a Doric column, taking in its chapter, six of its diameters; that is to say,

\* He was king of all Peloponnesus, and lived about 1522 years before Christ.

<sup>d</sup> Vitruv. l. 4. c. 1.

† Ion was son of Xuthus, brother of Dorus.

“they

“ they made it six times as high as it was thick <sup>e</sup> : afterwards they added to it a seventh diameter <sup>\*</sup>.

“ This new order of architecture was not long in giving birth to a second : they would immediately go beyond their first invention. The Ionians (it is Vitruvius who still speaks) tried to throw still more delicacy and elegance into their edifices. They employed the same method which they had before put in practice for the composition of the Doric order : but instead of taking for a model the body of a man, the Ionians were regulated by that of a woman. With a view to make the columns of this new order more agreeable and more pleasing, they gave them eight times as much height as they had diameter <sup>f</sup>. They also made channelings all along the trunk to imitate the folds of the robes of women : the volutes of the chapter represented that part of the hair which hung in curls on each side of the face. The Ionians added, lastly, to these columns a base which was not in use in the Doric order <sup>g</sup>.” According to Vitruvius, these bases were made in the manner of twisted cords, as a kind of case for the columns. This order of architecture was called Ionic from the name of the people who had invented it.

This is what Vitruvius relates of the origin and epoch of the Doric and Ionic orders : he makes it ascend as we have seen, to very early times.

I shall not stop to shew the little resemblance to truth there is in this whole narration ; but whatever had been the origin of these two orders, I think we cannot refer them to the ages in which Vitruvius has placed them. We

<sup>e</sup> Vitruv. l. 4. c. 1.

<sup>\*</sup> Vitruv. ibid. ; Plin. l. 36. sect. 56. p. 755.

At that time we may say, that the Doric column had the proportion of the body of a man. For the foot of a man is at least the seventh part of his height.

<sup>f</sup> Vitruv. l. 4. c. 1.

Afterwards they gave to these columns the height of eight of their diameters. At this time, they have nine, if we include the chapter and the base.

<sup>g</sup> See M. de Chambray, p. 15. 19. & 33. ; see also the notes of Perrault on Vitruvius, p. 176. note 6.



do not see in effect, that Homer, greatly posterior to these times, had the least idea of what we call the orders of architecture. I have already made this remark: I shall add, that if it had been known, it would very probably have been put in practice. Occasions were presented to him more than once in his poems. Homer speaks of temples consecrated to Minerva and to Neptune, and yet he gives no description of them <sup>b</sup>. With respect to palaces, what he has said does not give an idea of any order or of any design in architecture <sup>c</sup>. We should not even dare to affirm, that the columns mentioned in these edifices were of stone; they were only, according to all appearances, simple posts \*. Lastly, the only eulogy which Homer makes of the palace of Ulysses, consists in saying that it was very high, that the court was defended by a wall and by a hedge. The poet also praises the strength and the solidity of the gates of this palace, giving us to understand, that it was very difficult to force them. He seems to insist much on this article <sup>k</sup>, which was a very essential point in the heroic times, on account of the robberies which then were very frequent in Greece. These reflections are sufficient, I think, to make us reject the recital of Vitruvius, too modern an author with relation to the ages of which we now speak, for us to believe his simple testimony. It is better to acknowledge our ignorance of the state in which architecture then was in Greece, than to refer to such suspected traditions.

<sup>b</sup> See Iliad. l. 6. v. 297.; Odyss. l. 6. v. 266.

<sup>c</sup> See Iliad. l. 6. v. 242. l. 20. v. 11.; Odyss. l. 4. v. 72. &c. l. 7. v. 85. &c.

\* I remark at first, that Homer never calls these columns *σῆλας*, a word which properly signifies a column of stones; but always *κίονας*, which can only be understood of posts of wood. I shall observe, in the second place, that they drove pegs into these columns to hang different utensils upon, and that they there contrived cavities proper to keep different arms in. Odyss. l. 22. v. 176. &c. l. 8. v. 66, &c. l. 1. v. 127. &c. l. 19. v. 38.

But, moreover, Homer willing to give us an idea of the largeness of an olive-tree which supported the bed of Ulysses, compares it to a column; and it is there to be remarked, that he uses the word *κίον*, to design that column. Odyss. l. 23. v. 191.

<sup>k</sup> Odyss. l. 17. v. 264. &c.

## C H A P. IV.

*Of Metallurgy.*

**H**ISTORIANs are not agreed about the time in which the art of working of metals became known in Greece. Some make this discovery ascend to the most early ages, others place it in ages much more recent: these contradictions nevertheless are only in appearance. It is easy, by distinguishing the spirit and the motives of these traditions, to reconcile the recitals which at first appear the most opposite.

I think, that the knowledge of metals, and the art of working them, had originally been brought into Greece by the Titan princes: many facts seem to favour this conjecture. The Greeks, according to some authors, attribute to Sol the son of the Ocean, the discovery of gold <sup>k</sup>. I have already said, that anciently they called sons of the Ocean, those who from time immemorial had come by sea into a country. It was by this way, that the Titans had come into Greece: they came out of Egypt <sup>l</sup>. The Egyptians attribute to their ancient sovereigns the discovery of metallurgy <sup>m</sup>: they had deified them in acknowledgment of that invention, and of many others which these monarchs had imparted to their people <sup>n</sup>. A prince whose name the Greeks have rendered by that of *Elios*, and the Romans, by that of *Sol*, had been, by the confession of almost all historians, the first who had reigned in Egypt <sup>o</sup>. This monarch was also regarded as the most ancient divinity in the country <sup>p</sup>. Gold was the first metal that men have known <sup>q</sup>. Nothing hinders us to believe, that the prince of whom we now speak, had shewn to the Egyptians the manner of working this metal. I even think to find a proof of it in the relation which at all times has been established between the Sun, the name of an Egyptian mo-

<sup>k</sup> Gellius *apud* Plin. l. 7. sect. 57. p. 414.

<sup>l</sup> See part 1. book 1. art. 5. <sup>m</sup> *Ibid* book 2. chap. 4.

<sup>n</sup> Diod. l. 1. p. 17. <sup>o</sup> *Ibid* l. <sup>p</sup> *Ibid*.

<sup>q</sup> See part 1. book 2. chap. 4.



narch, and gold. The art of working of metal was brought into Greece by the Titans, and under the auspices of the Sun: these princes came by sea. This was enough to make the Greeks say afterwards, that the discovery of gold had been communicated to them by Sol son of the Ocean.

We may consider in the same point of view, what they related of the discovery of silver: they said they were indebted for it to Erichthonius<sup>r</sup>. This prince, according to the tradition of the Greeks, was the son of Vulcan<sup>r</sup>. No one is ignorant, that the Egyptians revered Vulcan as one of their most ancient divinities; who was looked upon to have invented fire<sup>r</sup>, and who among the Greeks was thought to preside at all the operations of metallurgy<sup>u</sup>.

With respect to copper, the first who worked that metal in Greece, were, according to some authors, workmen brought by Saturn and Jupiter<sup>x</sup>. We see, lastly, that, from a very ancient tradition, Prometheus passed for having learned the Greeks the art of working in metals<sup>y</sup>. We know, that this person, so famous in antiquity, was cotemporary with the Titans. All these facts then seem to declare, that the first knowledge of metallurgy had been brought into Greece by the Titan princes; and it is after this ancient tradition, that the authors have spoken, who made the art of working of metals ascend to the first ages of Greece.

I have already remarked on many occasions, that the reign of the Titans had been very short, whose fall had drawn along with it, that of the knowledge, which these strangers had imparted to Greece<sup>z</sup>. There must have new colonies come from Egypt and from Asia to re-establish, or, to speak better, to re-create the arts in that part of Europe. Cadmus ought to be looked upon as the first who renewed in Greece the art of working of metals. This prince discovered in Thrace, at the foot of Mount Pangæus, mines of

<sup>r</sup> Plin. l. 7. sect. 57. p. 414.

<sup>r</sup> Apollodor. l. 3. p. 196.

<sup>r</sup> Diod. l. 1. p. 17.

<sup>u</sup> See Odyss. l. 6. v. 233. & 234.

<sup>x</sup> Strabo, l. 14. p. 966.; Stephan. *in voce* Αἰδώς, p. 38.

<sup>y</sup> Æschil. *in* Prometh. vincito, v. 521. &c.

<sup>z</sup> See part 1. book 1. art 5.

gold. He had learned the Greeks to dig for them, to draw from thence the metal, and to prepare it <sup>a</sup>. He also made copper known to them, and the manner of working it <sup>b</sup>. This sentiment is even supported by the name which in all times they have given to one of the principal alloys which enters into the preparation of copper. *Calamine* or *Cadmia*, which is of great use to refine that metal, and to augment its weight, had received from Cadmus the name which it bore formerly, and which it retains even at this day <sup>c</sup>.

We are ignorant by whom, and at what time the art of working silver had been brought into Greece. I should incline also to give Cadmus the honour of the re-establishment of that part of metallurgy. I ground it upon this, that Herodotus <sup>d</sup> tells us, that Mount Pangæus, where Cadmus found mines of gold, contained also mines of silver.

It is therefore with some sort of reason, that this prince has passed, in the writings of most authors, for the first who had shewn to the Greeks the art of working metals; and it is not difficult, as we see, to reconcile the different traditions which have been preserved in Greece about the origin of that discovery. There is nothing contradictory in it. In effect, though the knowledge of the arts had perished with the Titans, there were nevertheless preserved some traces of them. Some writers had collected them, and transmitted to us the history of them. Others have neglected these ancient traditions, or perhaps were ignorant of them. They have therefore attributed to the chiefs of the last colonies who came into Greece, the discovery of many arts of which they were only the restorers.

We do not meet with the same division nor the same diversity of opinions about the time in which the Greeks knew and learned to work iron. The ancients agree sufficiently to place this discovery under the reign of Minos the First <sup>e</sup>, 1431 years before Christ. This knowledge had passed from Phry-

<sup>a</sup> Plin. l. 7. sect. 57. p. 414.; Clem. Alex. Strom. l. 1. p. 363. See also Herod. l. 7. n. 6. & 12.

<sup>b</sup> Hygin. fab. 274.; Strabo, l. 14. p. 998.

<sup>c</sup> In Latin *Cadmea*. See Plin. l. 34. sect. 2. & 22.

<sup>d</sup> L. 7. n. 6. & 12.

<sup>e</sup> Marin. Oxon. ep. 11.



gia into Europe, with the Dactyli, when they quitted the neighbourhood of Mount Ida to come and settle in Crete<sup>f</sup>. Nevertheless it does not appear that the art of working iron had been much extended in Greece. It was originally with the Greeks as with all people of antiquity. They used copper for most of the things for which at present we use iron. At the time of the war of Troy not only arms<sup>g</sup>, but even all tools, and all the instruments of mechanic arts<sup>h</sup>, were of copper. Iron was then so esteemed, that in the games which Achilles caused to be celebrated in honour of Patroclus, he proposed as a considerable prize a ball of that metal<sup>i</sup>. Homer speaks always of it with great distinction<sup>k</sup>.

With regard to tin, it was by commerce with the Phœnicians the Greeks had procured that metal. They made great use of it in the heroic ages. I shall have occasion to speak of it more particularly in the article of commerce and navigation.

It appears, that, at the times which we are now speaking of, the art of working gold, silver, and copper had made a very great progress among the Greeks. We see, by the writings of Homer, that these people knew, at that time all the instruments proper for the fabric of these metals<sup>l</sup>. I reserve the detail of all these practices for the following chapter, where I shall treat of the knowledge the Greeks had in gold work in the ages of the war of Troy.

## C H A P. V.

### *Of designing, graving, chasing, gold work, and sculpture.*

WE are ignorant in what time design, and the arts which have relation to it, took their rise among the

<sup>f</sup> Ephorus, *apud* Diod. l. 5. p. 381. ; Hesiod. *apud* Plin. l. 7. sect. 57. p. 414.

<sup>g</sup> See *infra*, book 5. chap. 3.

<sup>h</sup> *Iliad*. l. 23. v. 118. &c. ; *Odyss.* l. 3. v. 433. l. 5. v. 244.

<sup>i</sup> *Iliad*. l. 23. v. 826. <sup>k</sup> *Ibid.* l. 7. v. 473. *et passim.* <sup>l</sup> *Odyss.* l. 3. v. 433.

Greeks. Antiquity has transmitted nothing to us that is satisfactory on the origin of all these different discoveries. They attribute to Love the first essay that Greece had seen of the art of designing, and casting objects in earth.

A young girl violently smitten with her lover from whom she was to be separated for some time, endeavoured to find ways to soften the rigour of absence. Taken up with this business, she remarked on the wall the shadow of her lover, designed by the light of a lamp. Love makes us ingenious. It inspired that young person with the idea of preserving that dear image, by drawing about the shadow a line which followed and marked exactly the contour. History adds, that our lover's father was a potter of Sycione, named Dibutade. This man having considered the work of his daughter, applied clay on these strokes, by observing the contours such as he saw them designed: He made by this means a profile of earth which he burnt in his furnace <sup>m</sup>. We are not assured of the time in which this Dibutade lived. Some authors place him in very remote ages <sup>n</sup>.

Such had been, according to ancient tradition, the origin of design and in figures of relief in Greece. We are ignorant of the consequence of this first essay. We can say nothing of the degrees that the greatest part of the arts which have relation to design, went through successively among the Greeks. We may conjecture, that these practices have not begun to make any great progress till after the arrival of the colonies conducted by Cecrops, Cadmus, &c. These princes came out of Egypt and Phœnicia, countries, where the arts concerning design were known from time immemorial. Whatever it be, a number of facts reported by Homer shew, that, in the ages we are now upon, the Greeks were instructed in many arts which depended entirely upon design.

They knew how to work in ivory, and apply it to diffe-

<sup>m</sup> Plin. l. 35. sect. 43. p. 712.

<sup>n</sup> See Junius, in Catalog. p. 56.



rent uses \*. They applied it to the adorning of chairs and other furniture †. These works were of very great value, and much sought after. They must even then have had in Greece, artists distinguished for their taste and skill. Homer speaks of one Icmalius, as of a workman who excelled in these sorts of works ‡.

It is certain also, with respect to gold work, that the Greeks knew many parts of that art. We see frequently in the writings of Homer, the princes of Greece using cups, ewers, and basons, of gold and silver. The shield of Nestor was composed of frames or sticks of gold †. This prince had also a cup of pretty elegant workmanship. It was adorned with studs of gold, with two double handles, and other different ornaments ‡. Homer farther speaks very often of workmen who knew how to mix gold with silver to make precious vessels †. The Greeks knew also, in the heroic ages, the art of foldering these metals.

We might say, that all these works, of which I have spoken, had been brought into Greece from foreign countries. Yet I do not know that there is room to presume it. Homer does not say it. We know his exactness in this respect.

As to the art of engraving metals, I do not think that the Greeks had then done any of these works. I ground this, first, because there is never any mention made in Homer of rings or of seals. Secondly, on the ways which the Greeks, according to the relation of this poet, used to seal the trunks and the coffers in which they put their most valuable effects. The use of locks and padlocks was entirely unknown to them. That one might not open their packets, without their knowing of it, they wrapped them round with cords very artfully tied. These sort of knots were used instead of seals and signets. They were so ingeniously invented, and so complicated, that he alone

\* Odyss. l. 4. v. 73. &c.

† Ibid. l. 19. v. 56. & 57.

‡ Ibid. l. 11. v. 631. &c.

† Ibid. l. 19. v. 56. & l. 23. v. 200.

‡ Iliad. l. 8. v. 192. & 193.

\* Odyss. l. 6. v. 232. &c. l. 23. v. 159. & 160.  
who

who had made them could unloose and open them. Homer, to extol the skill of Ulysses in making these sort of securities, says, that it was from Circe that he had learned the secret <sup>u</sup>. If the Greeks had then known the art of engraving seals, they would not have had recourse to these knots, the common use of which must have been very inconvenient and very troublesome.

Yet if we will believe certain authors, the Greeks, in the heroic times, had rings and seals in use. Plutarch speaks of the ring of Ulysses, on which that hero had engraved a dolphin <sup>x</sup>. Helen, by the report of Hæphestion, cited by Photius, had for a seal a very uncommon stone, the engraving of which represented a monstrous fish <sup>y</sup>. Polygnotus, lastly, a Greek painter, who flourished about 400 years before Christ, in his picture of the descent of Ulysses into hell, had painted young Phocus, having on one of the fingers of his left hand an engraved stone set in a ring of gold <sup>z</sup>.

But these authors were too distant from the times we are speaking of, for their testimony to be capable of balancing the authority of Homer, the sole guide we ought to follow for the customs and manners of the heroic ages. Pliny has been very sensible of this. That great writer has not suffered himself to be imposed upon. He has not hesitated to advance, that seals and rings were not in use at the time we are speaking of at present <sup>a</sup>.

The Greeks were at that time ignorant of the art of drawing gold into wire, and of using it in gilding. The custom was anciently, to enrich with gold the horns of bulls or heifers which they offered in sacrifice. Homer describes the manner in which they proceeded at the time of the war of Troy; it was on occasion of a sacrifice offered by Nestor to Minerva. The poet says, that they made a workman come to apply the gold on the horns of the victim. This man brought with him utensils proper to perform that operation. They consisted of an anvil, a hammer, and pincers.

<sup>u</sup> Odyss. l. 8. v. 447. &c.

<sup>x</sup> T. 2. p. 935.

<sup>y</sup> Cœd. 190. p. 193.

<sup>z</sup> Paus. l. 10. c. 32.

<sup>a</sup> L. 33. sect. 4. p. 622. See also Hesych. voce *Θυσιαστικός*.



Nestor gave the gold to this workman, who immediately reduced it into very thin plates. He afterwards wrapped these plates about the horns of the heifer<sup>b</sup>. We do not remark in this proceeding any thing that could make us believe that the Greeks then knew the art of gilding, as they knew it afterwards, and such as we practise at this time. There is no mention neither of glue, nor of the white of an egg, nor oil, nor glutinous earth, nor, in a word, any ingredient proper to keep the gold on the horns of the victim. The manner in which they gilded then, consisted in covering with plates of gold extremely thin, the things to which they would give the colour and the brilliancy of that metal.

Homer does not furnish us with any other lights about the working of metals in Greece for the times we are speaking of at present. Let us go to sculpture.

This art had been a long time unknown to the Greeks. We may judge of this by the manner in which they anciently represented the divinities whom they adored. Their images were then of simple posts or large stones; often even of pikes dressed in a particular manner<sup>c</sup>. The idol of Juno, so revered among the Argives, was, in the early times, only a piece of plank, a piece of wood worked very rudely<sup>d</sup>. I could cite many other examples, which I omit for the sake of brevity. The idols of the Laplanders, of the Samoyedes, and the other people situated towards the extremities of the North<sup>e</sup>, bring back to us the image of the grossness and ignorance of the ancient inhabitants of Greece.

It is probably from Egypt that these people had re-

<sup>b</sup> Odyss. l. 3. v. 432. &c. This is the sense of the verb περιχίζω, used in all this description.

<sup>c</sup> Lucan. Phars. l. 3. v. 412. &c.; Justin. l. 43. c. 3.; Clem. Alex. in protrept. p. 40. & 41.; Strom. l. 1. p. 418.; Plut. t. 2. p. 478. A.; Paus. l. 2. c. 9. l. 7. c. 22. l. 9. c. 24. & 27.; Tertullian. apolog. c. 16. p. 16.; Ad Nation. l. 1. c. 12. p. 49.

<sup>d</sup> Paus. l. 2. c. 19.; Clem. Alex. in protrept. p. 40.

<sup>e</sup> Rec. des voyages au Nord, t. 8. p. 192. & 410; Hist. gen. des cerem. relig. t. 6. p. 71. & 81.

ceived their first knowledge in sculpture. We may refer this epoch to Cecrops. In effect, this first sovereign of the Athenians had passed in antiquity for having introduced into the temples of Greece the use of images<sup>f</sup>. The Athenians shewed, in the time of Pausanias, a statue of wood representing Minerva, which, they said, had been given by Cecrops<sup>g</sup>. The works of sculpture which the Greeks made for some time, favoured too much of the Egyptian manner. Without taste and knowledge, their sculptors contented themselves at first with following the models which had been presented to them<sup>h</sup>. The reader has not forgot what I have said in the first part of this work on the taste of Egyptian statues<sup>i</sup>. We find again the same defects in those of the ancient Greek sculptors. They were for the most part squared figures, having the arms hanging down and joined to the body, the legs and feet joined one against the other, without gesture and without attitude<sup>k</sup>. The Greeks at first still imitated the taste of the Egyptians for gigantic figures<sup>l</sup>.

Sculpture remained long in this state among the Greeks. They reckon more than 300 years from Cecrops to the ages in which they make Dædalus live. It was then that the Greek artists began to recognise the deformities and the want of agreeableness in the ancient statues. They thought they could make better. Dædalus, (that is to say, the sculptors who appeared in the ages in which they placed that artist), in copying the Egyptian models, did not stick to them servilely. They tried to correct the defects, and they succeeded at least in part. Nature was the model which they proposed. The face and the eyes of ancient statues had no expression. The artists of whom I speak

<sup>f</sup> Euseb. chron. l. 2. p. 55.; Praepar. evan. l. 10. c. 9. p. 486.; Isidor. orig. l. 8. c. 11. p. 69.

<sup>g</sup> L. 1. c. 27. See also Euseb. praep. evang. l. 10. c. 9. p. 486.

<sup>h</sup> See Diod. l. 1. p. 109.

<sup>i</sup> Book 2. chap. 5.

<sup>k</sup> Diod. l. 4. p. 319.; Palaeph. de incred. c. 22.; Scaliger, in Euseb. chron. p. 45.

<sup>l</sup> Strabo, l. 17. p. 1159.; Paus. l. 30. c. 19. p. 257.



studied to give it them. They detached from the body the arms and the legs, put them in action, and gave them various attitudes <sup>m</sup>. Their statues appeared with graces which they had not yet seen in these sort of works. They were so struck at it, that antiquity said of the statues of Dædalus, that they appeared animated, moved and walked of themselves <sup>n</sup>; exaggerations which shew the happy change which was then made in the Greek sculpture<sup>o</sup>.

Although there was great difference between these new productions and the ancient ones, they were still very far from that degree of perfection to which the Greeks afterwards carried sculpture. I think that the works of Dædalus, so boasted of in antiquity, owed the greatest part of their reputation to the grossness and ignorance of the age in which they appeared. This is the judgment which Plato has given us of them. Our sculptors, says he, would make themselves ridiculous, if they made at present statues in the taste of those of Dædalus<sup>p</sup>. Pausanias, who had seen many of them, confesses that they were shocking, that the proportions were too large and colossal <sup>q</sup>.

After having shewn the origin of sculpture among the Greeks, and its state in the ages we are at present employed about, it remains to examine the materials that these people then used for their statues. We have seen, that the first works which were made in relief were of burnt clay <sup>r</sup>. They learned afterwards to handle the chisel, and began to try it on wood. This is the only solid matter that the Greeks knew how to work for a long time. All the historians agree, in saying, that the an-

<sup>m</sup> Diod. l. 4. p. 319.; Euseb. chron. l. 2. p. 88.; Suid voce Δαίδαλος-ποιήματα, t. 1. p. 514.; Scaliger, in Euseb. chron. p. 45.

<sup>n</sup> See Plat. in Maenone, p. 426. ; In Entyphron. passim ; Arist. de anima. l. 1. c. 3. t. 1. p. 622.; De repub. l. 1. c. 4. t. 2. p. 299.

<sup>o</sup> Diod. l. 4. p. 319. ; Palaeph. de incred. c. 22. p. 29.; Euseb. chron. l. 2. p. 88.

<sup>p</sup> In Hipp. Maj. p. 1245. <sup>q</sup> L. 2. c. 4. l. 3. c. 19.

<sup>r</sup> *Supra*, p. 221.

cient statues <sup>r</sup>, and even those attributed to Dædalus, were of wood <sup>r</sup>.

We find, it is true, in some authors, certain traditions which seem to declare, that, before the war of Troy, the Greeks had known the art of sculpture in stone <sup>u</sup>, and even in marble <sup>x</sup>. But I have already explained myself on these sort of testimonies. I think we ought not to regard them when they are not supported by the suffrage of Homer. Statues of stone are never mentioned in his poems. With respect to marble, I have shewn, that, according to all appearances, this poet had not even known it <sup>y</sup>.

The art of throwing of metals into fusion to make statues of them, was equally unknown to the Greeks in the heroic ages. This secret must only have been known and practised very lately. Pausanias also regarded as suppositious, the statues of copper run at one cast, which they attributed to Ulysses <sup>z</sup>. We shall readily adopt his sentiment, if we reflect on the measures and extraordinary precautions they must take to succeed in such works. The Greeks surely were not then in a capacity to undertake them, and less still to execute them. Yet if we believe the same author, these people then had statues of copper. This is the manner in which he pretends the Greeks executed them. They made, says he, a statue successively and by pieces. They ran separately and one after the other, the different parts which compose a figure. They afterwards collected them and joined them together with nails <sup>a</sup>. They repaired the whole without doubt with a chisel. The equestrian statue of Marcus Aurelius in the capitol is executed in this taste <sup>b</sup>. However imperfect this practice be, I yet think it was unknown to the Greeks in the ages we are at present upon.

<sup>r</sup> Plin. l. 22. sect. 2. p. 651. ; Paus. l. 1. c. 27. l. 2. c. 17. 19. 22. 25. l. 8. c. 17. ; Plut. *apud* Euseb. præp. evan. l. 3. c. 8. p. 99.

<sup>t</sup> Diod. l. 1. p. 179. ; Paus. l. 2. c. 4. l. 8. c. 35. l. 9. c. 11.

<sup>u</sup> Eustath. *ad* Iliad. l. 2. v. 358. &c. <sup>x</sup> Paus. l. 2. c. 37.

<sup>y</sup> Supra. p. 226. <sup>z</sup> L. 8. c. 14. <sup>a</sup> L. 8. c. 14. l. 3. c. 17.

<sup>b</sup> Mem. de Trey. Juillet 1703. p. 1208.



We perhaps might be authoris'd from some passages of Homer to support the sentiment of Pausanias. This poet, for example, says that one sees on each side of the gate of Alcinous two dogs of gold and silver, which Vulcan had made a present of to that prince <sup>c</sup>. He places in the same edifice, statues of gold representing young boys who held in their hand torches which they lighted to light the dining-room <sup>d</sup>. Homer farther makes a wonderful description of the two slaves of gold which Vulcan had forge'd to accompany him, and assist him in his work <sup>e</sup>.

But we must remark, first, that it is to a god that the poet attributes these uncommon works. Let us observe afterwards, that it is in Asia that he places them <sup>f</sup>. The marvellous, moreover, which he puts in this whole description, does not permit us to believe, that he had had in view any thing like, or even approaching to what he there speaks of. We should range these passages among the number of fictions which poets use sometimes to surprise and amuse the reader. We might even go further. I think we may perceive a very sensible relation between these slaves of gold of Vulcan who walk, think, and assist the god in his work, and what they gave out anciently in Greece about the statues of Dædalus <sup>g</sup>. It was, by what appears, one of these popular opinions to which the greatest geniuses seem to pay homage. I do not think then, that we can conclude any thing of the true taste of sculpture among the Greeks in the ages of which we now speak. In general, I am persuaded that they had then very few statues in Greece. Homer does not put any in the palaces of the Greek princes of whom he had occasion to speak, nor in any other place. I shall add, that he even has not in his writings particular terms to design a statue <sup>\*</sup>.

<sup>c</sup> Odyss. l. 7. v. 92. &c.

<sup>d</sup> Odyss. l. 7. v. 100. &c.      <sup>e</sup> Iliad. l. 18. v. 417. &c.

<sup>f</sup> See supra, chap. 1. p. 84.      <sup>g</sup> See p. 226.

<sup>\*</sup> Homer never makes uses but of the term *ἄγαλμα*; he even uses that expression to mark in general all sorts of ornaments. It was only afterwards, that the Greek writers restrained the signification of the word *ἄγαλμα*, and consecrated it to design statues. See Feith. antiq. Hom. l. 1. c. 4. p. 31.

We shall not be surpris'd that at this time I say nothing of painting. I have discuss'd that matter extensively enough in treating of the arts which the people of Asia and Egypt could have the knowledge of in the ages which make the object of this second part of my work. I have declared myself for the sentiment of Pliny, who believes the invention of painting posterior to the heroic times<sup>b</sup>. I have nothing new to add to it. The reasons which I have alledged regard the Greeks as much and more, than the people of Asia and the Egyptians. I am perswaded that neither one nor the other then knew the art of painting in the sense in which I have explained it<sup>i</sup>.

## C H A P. VI.

*Of the origin of writing.*

**T**Here now remain very few lights about the first means that the Greeks had employed to render their thoughts sensible to the eyes, and to transmit them to posterity. We only see, that in the first times they made use of practices almost like to those which all the people known in antiquity had used originally. We find among the Greeks these sorts of poems, which they set to music, to preserve the memory of important facts and discoveries<sup>k</sup>. I suspect also, as I have said elsewhere, that they anciently made use of representative<sup>l</sup> writing, which consists in designing the objects of which they would speak. With respect to hieroglyphics, I am ignorant whether the Greeks have known that sort of writing, I find no trace, no vestige in their history. Yet I would not infer that these people have never practised hieroglyphic writing. We are not sufficiently instructed in

<sup>b</sup> See p. 170. 171.      <sup>i</sup> Ibid. p. 163.

<sup>k</sup> Tacit. annal. l. 4. n. 43.; Acad. des inscript. t. 6. p. 165. See also *supra*, book 1. chap. 3. art. 8. p. 77. & 78.

<sup>l</sup> See part 1. book 2. chap. 6.



the ancient customs of Greece, to dare to pronounce any thing on that subject.

Alphabetic writing had only been introduced very lately into that part of Europe. Cadmus, according to the report of the best historians of antiquity, was the first who made known to the Greeks that sublime knowledge<sup>m</sup>. Some authors, indeed, would do that honour to Cecrops<sup>n</sup>. But this sentiment is neither proved, nor followed. There are also found modern critics who have advanced, that, before Cadmus, the Pelasgians had an alphabetic writing<sup>o</sup>. Whatever researches I have been able to make on this subject, I confess that I have not been able to find the least signs of it in antiquity. Every thing says to us, that we ought to refer to the arrival of Cadmus the knowledge of alphabetic characters in Greece. The comparison of the Phœnician alphabet, and the Greek alphabet, would alone be sufficient to convince us. It is visible that the Greek characters are only the Phœnician letters turned from right to left. Let us add to this the names, the form, the order, and value of the letters which are the same in one and the other writing<sup>p</sup>. The reasons which they would oppose to this sentiment appear to me so weak and so void of authority, that I do not think I ought to stop to oppose them.

The ancient Phœnician alphabet brought into Greece by Cadmus, was defective enough; it ended at *Tau*<sup>q</sup>. It was only afterwards and at different times that they added to it *Upsilon*, *Phi*, *Psi*, &c<sup>r</sup>. If we have regard to some Greek<sup>s</sup> and Roman<sup>t</sup> authors, this first alphabet would have been still more imperfect than we have said. They will have it in effect, that the alphabet of Cadmus had only been composed of six letters. They name Palamedes, Simonides, Epicharmes, for the authors of the new letters with which the Greek al-

<sup>m</sup> Herod. l. 5. n. 58.; Ephorus *apud* Clem. Alex. Strom. l. 1. p. 362.; Diod. l. 3. p. 236.; Plin. l. 7. sect. 57. p. 412.; Tacit. annal. l. 11. n. 14.; Euseb. praep. evan. l. 10. c. 5. p. 473.

<sup>n</sup> Tacit. annal. l. 11. n. 14.

<sup>o</sup> Acad. des inscript. t. 6. p. 616.

<sup>p</sup> See Bochart chan. l. 1. c. 20. p. 490. &c.

<sup>q</sup> See acad. des inscript. t. 23. mem. p. 420.

<sup>r</sup> Ibid. *loco cit.*

<sup>s</sup> Plut. t. 2. p. 738. F.

<sup>t</sup> Plin. l. 7. sect. 57. p. 412. & 413.

phabet was successively enriched. But this account very much resembles a fiction of the Greek grammarians, very ignorant of the origin of their own language; a fiction adopted afterwards by the Roman authors, and by the greatest number of our modern writers. Many reasons bring me to think thus. The diversity of sentiments, about these pretended inventors of letters which were wanting in the ancient Greek alphabet <sup>u</sup>, prove at first sight how very uncertain every thing was they have said of their discoveries. I find afterwards in the Greek language more than six Phœnician letters which agree with each other both in name and sound <sup>x</sup>. Besides, there are numbers of the most common Greek words, the most ancient and the most necessary, which are only written by means of the letters which they attribute the invention of to Palamedes, to Simonides, or to Epicharmes <sup>y</sup>. Lastly, we see that the form of the characters has greatly varied among the Greeks; it has experienced successive changes, similar to those which the writing of all languages has experienced. I observe, that some of the characters which they pretend to have been newly invented, only appear to be modifications of other letters more ancient <sup>z</sup>. We ought not then to regard what some modern writers have propagated about the pretended augmentations made successively to the alphabet of Cadmus by Palamedes, Simonides, and Epicharmes. These facts are nothing less than proofs, that custom alone can have enriched the Greek alphabet with the characters of which it had need <sup>a</sup>.

We see, by all that remains of the monuments of antiquity, that originally the Greeks formed alternately their lines from right to left, and from left to right, in the same manner that ploughmen draw their furrows. This is what has made them give to this ancient manner of writing the name

<sup>u</sup> See Hermannus Hugo, de prima scrib. orig. c. 3.; Fabricius, bibl. Graec. l. 1. c. 23. n. 2. t. 1. p. 147.

<sup>x</sup> See le Clerc, bibl. chois. t. 11. p. 39. 40. > Id. ibid.

<sup>z</sup> See acad. des inscript. t. 23. mem. p. 421. & 421.

<sup>a</sup> Id. ibid. loco cit.



of *Boustrophedon*, a word literally signifying *furrowed writing* \*.

I doubt further if we ought to look upon the Greeks as the inventors of this manner of writing. I am much inclined to think that the Phœnicians wrote thus originally, and that even at the time of Cadmus. It is in effect more than probable, that the Greeks, on receiving the writing of the Phœnicians, would at first follow the manner in which these people ranged their characters. Even this practice, which now seems to us so odd, yet might be that which shall first have presented itself. In the origin of alphabetic writing, and when they had begun to make use of that invention, it must have appeared very natural to continue the line backwards, and to follow it thus alternatively. I should think, that they must have had some reflection to have determined them, after the first line was finished, to bring back their hand under the first letter of that line, and thus to begin again all the lines in the same way. It is true, that, in the manner of writing in *Boustrophedon*, they were obliged at each line to form a part of the same characters in a contrary way. But experience teaches us, that, in making discoveries, we almost always begin with the most difficult processes. Moreover, I presume, that in the early times they only writ with capital letters; and we know that in the Greek alphabet there are many which we may form equally contrarily. We must observe further, that originally they ingraved these characters on hard substances, or at least very firm ones. This practice did not permit to write fast as we do at this time. In this case it would be almost indifferent to engrave the same characters from right to left, or from left to right.

Writing in *Boustrophedon* had subsisted a long time in Greece. It was in this manner that the laws of Solon were written <sup>b</sup>. This legislator published them about 594 years

\* I did not think it necessary to give a model of this sort of writing, reflecting that it is found in many works which are in the hands of every body. See among others vol. 23. des mem. de l'acad. des inscriptions.

<sup>b</sup> Suid. in *Κάτωθεν νόμος*, t. 2. p. 674.; Harpocrat. in *Κάτωθεν νόμος*, p. 203.  
before

before the Christian æra. They have likewise discovered some inscriptions in *Boustrophedon* which only ascend between 500 and 460 years before Christ <sup>c</sup>.

The Greeks only knew very lately the inconveniency of forming their lines alternatively from left to right, and from right to left. At last indeed they found, that the method of writing uniformly from left to right was the most natural, because it restrained and fatigued the hand less <sup>d</sup>. This discovery must have made them insensibly abandon writing in *Boustrophedon*. An ancient author, whose works have not yet been published, says, according to the report of Fabricius, who cites him in his *Bibliotheca Græca*, that it was Pronapides who first introduced into Greece the method of writing uniformly from left to right <sup>e</sup>. This Pronapides passed in antiquity for having been the preceptor of Homer <sup>f</sup>. We may then advance, that it was nearly about 900 years before Christ that the Greeks began to write uniformly from left to right. But we had better confess that we can say nothing very satisfactorily on the ages in which this practice has been constantly observed in Greece. We see plainly, by some monuments which ascend to very remote times, that this sort of writing had place among the Greeks very anciently. The Abbé Fourmont has reported in his voyage to the East, inscriptions written from left to right, which appear to have been at the time of the first war between the Lacedæmonians and the Messenians, that is to say, 742 years before Christ <sup>g</sup>. But we know also, that, near 100 years after that event, writing in *Boustrophedon* must have still been in use. The manner in which I have just said the laws of Solon <sup>h</sup> were written, and other inscriptions posterior to that legislator, prove it sufficiently. It appears then, that, for some ages, they continued to write indifferently in *Boustrophedon*, and uniformly from left to right. Further, it does not appear to me possible to determine precisely the time in

<sup>c</sup> Muratori, nov. thes. t. i. col. 48.

<sup>d</sup> See part 1. book 2. chap. 6.

<sup>e</sup> Bibl. Græc. t. i. l. 1. c. 27. n. 2. & 3. p. 159. <sup>f</sup> See Diod. l. 4. p. 237.

<sup>g</sup> Acad. des inscript. t. 15. p. 397. t. 16. hist. p. 104.

<sup>h</sup> *Supra*, p. 232.



which the first of these practices had been absolutely abolished. It can only be time, researches, and some happy events which can procure us an explication of all these difficulties.

The Phœnician writing, in passing from Asia into Greece, received a change still more considerable than what I have spoke of. The Phœnicians, like most of the eastern people, did not express the vowels in writing; they contented themselves with aspirating them in pronunciation. The Greeks, whose language was more soft than that of the Phœnicians, had not occasion for so many aspirations: they converted them then into vowels which they expressed in their writing. This change was very easy: the name of the principal aspirations used in the Phœnician language must naturally have furnished that of the Greek vowels<sup>1</sup>.

This manner of writing could not certainly have taken place at the beginning when Cadmus instructed Greece in the art of writing. There must have passed some time before they could have thought of making changes in the Phœnician writing. It would be difficult to assign the epoch in which the vowels had been introduced into the Greek writing. We may perhaps, after an ancient historian, attribute that innovation to Linus<sup>2</sup>, the master of Orpheus, of Thamyras, of Hercules, &c. This person so famous in antiquity was of Thebes in Bœotia<sup>3</sup>, a city founded by Cadmus, and where, of consequence, writing must have been sooner perfected. But, moreover, this is only a conjecture on which I do not pretend to insist.

The Greeks, in their common business, used originally to write on tablets of wood covered with wax<sup>4</sup>. It was with a style of iron that they drew their characters<sup>5</sup>. With respect to laws, treaties of alliance or of peace, it was their custom to engrave them on stone or on brass<sup>6</sup>. They preserved in

<sup>1</sup> See Bochart, chan. l. 1. c. 20. p. 493.

We may nevertheless still believe that anciently the Phœnicians expressed the vowels in their writing. This conjecture is not void of foundation. But it would draw us into too long a discussion.

<sup>2</sup> Dionys. *apud* Diodor. l. 3. p. 236.

<sup>3</sup> Paus. l. 9. c. 29.

<sup>4</sup> Isidor. orig. l. 6. c. 8.

<sup>5</sup> Id. *ibid*.

<sup>6</sup> Paus. l. 4. c. 26.; Tacit. annal. l. 4. n. 26. & 43.; Suid. *in* *Ἀντιστοχόῳ*, t. 1. p. 89.

the same manner the remembrance of events which interested the nation, and the succession of princes who had governed them <sup>p</sup>.

Besides, it appears, that it has been anciently with the Greeks the same as with all other people of antiquity, that is to say, that, in early times, they made very little use of writing. We see by Homer, that, in the heroic ages, they did not use it in the most necessary acts of civil life. They decided processes and differences by the verbal deposition of some witnesses <sup>q</sup>. We have even room to doubt whether treaties of peace were then reduced to writing.

In the *Iliad*, the Greeks and the Trojans ready to engage, propose to terminate their differences by a single combat between Paris and Menelaus: they stipulate what shall be the conditions on each side according to the event of the battle. Priam and Agamemnon advance to the middle of the two armies. They bring lambs to sacrifice, and wine to make libations: Agamemnon cuts the wool from the head of the lambs: the heralds of the Greeks and Trojans divide it between the princes. Agamemnon declares with a loud voice, the conditions of the treaty. They cut the throats of the lambs, they make libations; the treaty is ratified <sup>r</sup>; and it is not said, that the conditions were couched in writing.

On another occasion, Hector challenges to single combat, the most valiant of the army of the Greeks. Many princes present themselves, to accept the defiance: they agree, that chance shall determine who shall fight the son of Priam. The manner in which they proceed is remarkable: instead of writing his name, each of the princes makes a mark which he casts into the helmet of Agamemnon <sup>r</sup>.

If they were to erect a monument, Homer does not say that they put any inscription upon it <sup>s</sup>: we see, that they then contented themselves to put on the monuments a column, or some other characteristic mark <sup>u</sup>. Lastly, there is not

<sup>p</sup> Acad. des inscript. t. 15 p. 297.

<sup>q</sup> *Iliad*. l. 18. v. 499. &c.

<sup>r</sup> *Ibid*. l. 3. v. 140.

<sup>r</sup> *Ibid*. l. 7. v. 175. &c.

<sup>s</sup> *Ibid*. l. 23. v. 245. &c.

<sup>u</sup> *Iliad*. l. 17. v. 434.; *Odyss*. l. 12. v. 14. & 15.



spoken of by this poet any correspondence, or any order given in writing. They gave all their instructions and all their commissions verbally.

The only time that mention is made of writing in Homer is with relation to Bellerophon: he says, that Prætus sent that prince to carry to Jobate, a letter which contained an order to put him to death  $\gamma$ . This letter, as far as we can judge, was written on tablets covered with wax  $\times$ . It must be notwithstanding, that the error of writing so rarely as they did in the heroic times, was not continued, and writing must necessarily become more common between the space of time that passed from the war of Troy to the age of Homer. The degree of perfection to which we see in the time of that poet the Greek language was already brought, is a certain proof of it. It had then all the characters of a rich language, polished, regular, in a word, capable of all kinds of writing. But the Greek language could never have come to that purity and that elegancy, if, from the war of Troy to the age of Homer, the Greeks had not writ much  $\ast$ .

$\times$  Iliad. l. 6. v. 168. &c.

We might perhaps remove the doubts about the signification of the terms used by Homer on this occasion; and it must be confessed, that these doubts are not without foundation. For Homer designs what Bellerophon shewed to Prætus, only by the vague word *σηματα*, literally, *marks, signs*. This manner of expression is singular enough, and does not design alphabetic writing but very vaguely. The word *σηματα* would agree better with hieroglyphics. Nevertheless I have thought I ought to follow the common manner of interpreting this passage.

$\gamma$  See Plin. l. 13. sect. 20. & 27. l. 33. sect. 4.

$\ast$  We must observe, that Homer was born and brought up in Asiatic Greece; it was then in those countries that the Greek language began to be formed and perfected.

## B O O K III.

*Of Sciences.*

**I** Have treated of the origin of sciences in the first part of this work, I have even tried to unfold their progress: I often could not do it, but by the help of many conjectures. There now remains to us scarce any detail about the events that happened in that high antiquity: the ages which we now run over, will furnish us with more matter for our researches. The facts are sufficiently known, and even circumstantial enough. We shall see among some nations a remarkable progress, which must be attributed probably to the invention of alphabetic writing\*.

Before the discovery of that admirable art, the people had, it is true, some means to preserve the memory of their discoveries. But these succours were so imperfect, that they could contribute but weakly to the advancement of the sciences, and, if I may use the word, to their propagation. Alphabetic writing has removed all obstacles: the sciences are extended and multiplied. Different colonies, coming from Egypt and Asia, brought the sciences into Greece, and drew that part of Europe from barbarism and ignorance. The sciences did not find at their first beginnings a soil or minds properly disposed. The fruits which they bore, were in small abundance, and came very late. It was by length of time that Greece was indebted for all sorts of knowledge which has so greatly distinguished

\* The reader will perceive without doubt, that I here recall nearly the same ideas which I have already presented in the beginning of the preceding book. But as it is important, that he should not lose the view of the plan and the gradation which I have proposed in this work, I thought these repetitions necessary. I even foresee, that I shall be forced still to make use of it more than once.



them from other countries. But that slowness has been compensated by the beauty and the abundance of the productions of every sort which she has brought forth since.

## C H A P. I.

### *Of Asia.*

**W**E have seen before, that the history of Asia was almost entirely unknown to us in the ages which make our object at present. The little that we have been able to collect, only regards the people who inhabited the coasts of that part of the world which are washed by the Mediterranean. The Phœnicians have been almost the only ones about whom history has furnished us at this time with any lights: they shall also be the only ones of whom I will speak in this article.

It is in Phœnicia that we find the first traces of a philosophic system of the origin and the formation of the world. We ought in effect to put in the rank of the first philosophers that Asia has produced, Sanchoniatho, of whom Eusebius has preserved for us a valuable fragment<sup>a</sup>. This author wrote about the beginning of the ages we are at present running over: his work is, after the books of Moses, the most ancient monument which remains to us of antiquity. Sanchoniatho has transmitted to us, as well as a philosopher as an historian, the ancient traditions of the Phœnicians; I have often made use of the little that remains of his writings<sup>b</sup>. It is one of the sources from whence I have drawn, in a great measure, the history of the arts and the discoveries in the first ages. It is commonly thought, that Sanchoniatho was cotemporary with Joshua<sup>c</sup>.

<sup>a</sup> See at the end of the first vol. our dissertat. on the fragment of Sanchoniatho.

<sup>b</sup> See, *ibid* what we think of this work.

<sup>c</sup> See Bochart, *chan.* l. 2. c. 2.; Fourmont, *reflex. critiq. sur l'hist. des anc. peuples*, t. 1. p. 36. & 37.

We also see that there is mention made in the book of Joshua of a city in Palestine, named *Dabir*. The sacred historian observes, that that city was formerly called *Cariath-Sepher*<sup>d</sup>. The name by which that city was originally known, leads us to believe, that, in the early times, they had in Palestine public schools where they taught the sciences. *Cariath-Sepher* in effect signifies the *city of books, or of letters*. A similar denomination seems to shew, that they had commonly a great number of learned men assembled in that city. The sciences must consequently have been much cultivated in Palestine from the first ages after the deluge.

We ought not moreover to be surpris'd at this. These countries had been certainly the first which were policed<sup>e</sup>: it is natural then that they should have produced in it very early many philosophers. Thus we see that the first systems of philosophy ascended among the Phœnicians to very remote epocha's. This is what we learn from the writings of Sanchoniatho. That author has drawn from ancient works the ideas which he has propagated about disintangling the chaos, of the original state of the world, and of the first events which happened in it<sup>f</sup>. It is certain then, that, in the most early times, the Phœnicians had carried their speculations so far as to explain the manner in which the world had been formed. How obscure and how perplexed soever their cosmogony was, it supposes nevertheless some studies, some researches, and some reasonings. For the rest I do not think I ought to dwell upon the ideas these Asian philosophers had about the origin and formation of the world: and enow other critics and literati have already taken care to explain that system, for me to be dispensed with from giving an account of it. I shall only remark, that the nearer we go to the ages bordering on the creation, the more traces we shall find of that great truth, which the presump-

<sup>d</sup> Josh. c. 15. v. 15.

<sup>e</sup> See part I. book I.

<sup>f</sup> Euseb. præp. evang. l. 1. p. 21.



tion and rashness of man has in vain endeavoured afterwards to obscure \*.

One Moschus of Sidon furnishes us with the most ancient example of this foolish enterprise. He has been looked upon as the first who has shewed the absurd system of the formation of the world by the fortuitous concourse of atoms <sup>b</sup>; a system which, many ages afterwards, Epicurus endeavoured to renew in Greece. Strabo further tells us, that Moschus, of whom we now speak, wrote about the time of the war of Troy <sup>c</sup>. We cannot decide whether this opinion is well or ill founded, Strabo being, as I think, the only one of the ancients who has spoken of this Moschus.

With respect to the sciences properly so called, the na-

\* Eusebius, and after him some modern writers, have thought that the cosmogony of Sanchoniatho led to Atheism, because this author appears to give little, or no part to the sovereign being in the formation of the world. But Cudworth, in his intellectual system, pretends, and with reason, that Sanchoniatho admits two principles, of which one is an obscure and dark chaos; the other Πνεῦμα, a spirit, or rather an intelligence endowed with goodness, who has arranged the world in the state in which it is. This sentiment is so much the more true, as Sanchoniatho had drawn his cosmogony from the writings of Thaut; and the same Eusebius teaches us after Porphyry, that Thaut was the first who had writ of the gods in a manner more elevated than the vulgar superstition; Syrmumbelus and Thuro, writers posterior to Thaut by many ages, have cleared up his theology concealed till their times under allegories and emblems. That obscurity and this enigmatic style have imposed on Eusebius, and the modern authors of whom I speak. Yet they could not hinder themselves from acknowledging and agreeing, that the design of Sanchoniatho was to give credit to idolatry. Now, nothing is more opposite to idolatry than Atheism.

In another fragment drawn from the same Sanchoniatho, it was said that Thaut had meditated much about the nature of the serpent called by the Phoenicians *Αγαθοδαίμων*, good genius. Philo teaches us, that Zoroaster, in his sacred commentary on the ceremonies of the Persian religion, has spoken of this good genius in an admirable manner, by saying that this God is the master of all things, exempt from death, or eternal in his duration, without beginning, without parts, &c. *Apud* Euseb. praep. evang. l. 1. c. 10. p. 41. & 42. I ask if such ideas lead to Atheism?

I have already said, Eusebius, and the modern authors who have followed him, have been deceived by the enigmatic style of Sanchoniatho. It was, besides, the general taste of the learned of antiquity. They affected to speak only in riddles, by emblems, and in a manner almost unintelligible. No philosopher of these ancient times has presented his doctrine plainly and simply. No one has even shewn any part of the sciences whatever it was, in a clear and intelligible manner. This taste still reigns at this time in all the eastern writings.

<sup>a</sup> Strabo, l. 16. p. 1098.

<sup>b</sup> Id. ibid.

vigations of the Phœnicians must have contributed much to the advancement of astronomy and geography. It was in the ages of which we are now speaking, that these people undertook those voyages of great extent which have rendered their names so famous in antiquity. They passed the straits of Cadiz, and trusting themselves on the ocean, they advanced on one side to the western extremity of Spain, and on the other to the coast of that part of Africa which is washed by the Atlantic <sup>i</sup>. The discovery which the Phœnicians made of the help they could draw from the observation of the polar star to direct the course of a vessel, was the cause of the success which accompanied their maritime enterprises <sup>\*</sup>. I reserve the circumstances of them for the article of navigation. The details into which I shall then enter, will make us better perceive to what degree the Phœnicians must have possessed, even in the ages which at present fix our attention, the principal parts of mathematical sciences.

## C H A P. II.

*Of the Egyptians.*

**H**ISTORY, in the ages we are at present speaking of, will furnish us with many lights on the state of sciences in Egypt. I shall treat each object separately, and under different articles; and I shall shew their state and progress relatively to the times which make the subject of the second part of my work.

## A R T I C L E I.

*Of Medicine.*

**I**N examining the origin and state of medicine in the first part of this work, I have said that there was no mention

<sup>i</sup> See *infra*, book 4. chap. 2.      <sup>\*</sup> See *ibid.* *lexo cit.*



made of physicians by profession before the time of Moses. I have related the ways which they used originally in treating the sick, and the expedient they had invented to the end that every body might profit by particular discoveries. They exposed the sick in public to enable them to receive the salutary counsels which each could give them <sup>1</sup>. It is proper to remark, that then they did not know writing. Since the invention of that art they put in practice another custom which must still have contributed more to make known the different remedies which they could use. Those who had been attacked with any distemper, put in writing how and by what means they had been cured. These memoirs were placed in their temples to serve for the instruction of the public. Every one had a right to go and consult them, and to chuse the remedy of which he thought he had need \*.

Afterwards, the number of these receipts being augmented, it became necessary to put them in order. Those who were charged with this care, came to know more particularly the composition of the different remedies. By comparing the one with the other, they learned to judge of their virtue. They acquired by that means more exact knowledge than what they had before. They began from that time to consult these sorts of persons, and to call them on critical occasions. As Moses speaks of physicians by name <sup>m</sup>, we may, I think, refer to the ages in which he lived, the origin of that profession.

We ought to look upon the Egyptians as the first who reduced into principles, and subjected to certain rules, the vague and arbitrary practices by which they were guided

<sup>1</sup> See part 1. book 3. chap. 1.

\* In Egypt, these sorts of registers were deposited in the temple of Vulcan at Memphis. Galen. *de compos. medicament. per genera*, l. 5. c. 2. t. 13. p. 775. edit. Charterii.

The same custom was also observed in other countries. See Plin. l. 29. c. 1. p. 493.; Paus. l. 2. c. 27. & 36.; Strabo, l. 8. p. 575.

It was from these registers, according to Pliny and Strabo, that Hippocrates had drawn a great part of his knowledge. Plin. *loco cit.*; Strabo, l. 14. p. 972.

<sup>m</sup> Exod. c. 21. v. 19.

for a long time. They passed in antiquity for having cultivated medicine more anciently and more learnedly than any other people <sup>a</sup>. It is not very difficult to give a reason for this. There never had been a country where physicians had been, and still are more necessary than in Egypt. The overflowings of the Nile exposed them at all times to frequent maladies. The waters of that river having no free course during the two months and an half which precede the summer-solstice, it must necessarily happen that they should be corrupted <sup>b</sup>. When the inundations are great, the Nile in retiring forms marshes which infect the air <sup>c</sup>. These standing waters have always occasioned in Egypt epidemic distempers. They must particularly have felt the pernicious effects in the first ages, when they had not yet taken the necessary precautions to facilitate the running off of the waters. But these very precautions must have been for a long time baneful to the inhabitants of that climate. The moving of the earth occasioned by the construction and maintaining of that innumerable quantity of canals with which Egypt was formerly watered, and the works which they must have made to drain the morasses, must have produced most troublesome accidents. It is known what malignant vapours these sorts of earths just moved produce.

Besides, the inhabitants of the cities and the villages which were not upon the borders of the Nile, did only drink for the greatest part of the year standing and corrupt water <sup>d</sup>. That of the wells is not better <sup>e</sup>. Springs are extremely uncommon in Egypt. It is a sort of prodigy to meet with one <sup>f</sup>.

Besides, from the report of travellers, the air there is

<sup>a</sup> Hom. Odyss. l. 4. v. 231.; Isocrat. *in* Busirid. p. 329.; Plin. l. 7. c. 56. p. 414.; Clem. Alex. Strom. l. 1. p. 362.

<sup>b</sup> Voyage de l'Égypte par Granger, p. 19. & 20.

<sup>c</sup> Description de l'Égypte par Maillet, p. 15. & 26.

<sup>d</sup> Granger, p. 25.

It is the water of marshes formed by the overflowings of the Nile.

<sup>e</sup> Plut. t. 2. p. 367. B. <sup>f</sup> Maillet, p. 16.



very unwholesome<sup>t</sup>. There reign annually in Egypt from the vernal equinox to the summer-solstice deadly malignant fevers. In autumn, their thighs and knees are surrounded with carbuncles, which kill the patients in two or three days. At the time of the increase of the Nile, the greatest part of the inhabitants are attacked with obstinate dysenteries caused by the waters of that river, which at that time are greatly loaded with salts<sup>u</sup>.

The serene weather is above all the most dangerous in Egypt. As the sun is very hot in these climates, it raises a great quantity of exhalations and malignant vapours, which cause great defluxions on the eyes; from hence it comes that we see so many blind people there<sup>x</sup>.

This country is also subject to a very singular and very frequent inconveniency. When they are attacked with it, they think all their bones are broke<sup>y</sup>. These accidents are produced by the winds which blow in Egypt. As they are loaded with many salts, they occasion frightful pains in all parts of the body, often even palsies, which they cure with great difficulty. Thus we see very few robust people, and scarce any old ones in Egypt<sup>z</sup>. It was apparently the same when Jacob passed through it with his whole family. We shall be tempted to imagine, that the Egyptians had not been accustomed to have seen persons of a very advanced age, by Pharaoh's question to Jacob about the age of that patriarch<sup>\*</sup>.

Egypt having been exposed at all times to so great a number of general and habitual distempers, they must

<sup>t</sup> Gemelli, t. 1. p. 33. & 113.

<sup>u</sup> Granger, p. 24. &c.; Relat. d'Eg. par le Vansleb. p. 36.

<sup>x</sup> Maillet, p. 15.; Granger, p. 22.; Voyage au Levant par Corneille le Brun, c. 40. *init. edit. in fol.*

<sup>y</sup> Maillet, p. 15.

<sup>z</sup> Granger, p. 24. & 27.

<sup>\*</sup> It is true, Herodotus says, that after the Lybians there were no men on the earth more healthy than the Egyptians. He attributes this good health to the temperature of the air which is always equal, l. 2. n. 77.

But it must be observed, that Herodotus only speaks of a particular district. Travellers agree generally enough, that Egypt is a very unwholesome country. We might join to the testimonies that we have already cited, that of Pietro della Valle, t. 1. p. 325. and of Gemelli, t. 1. p. 33. We may likewise see what Pliny says of the maladies peculiar to Egypt, l. 26. c. 1.

have tried very early to find out the proper means to remedy them. From hence came physicians.

We may conclude from what we find in history, about the practice of the Egyptians, that these people had been the first who had perceived the necessity of dividing among many persons the different objects of medicine.

The ancients tell us, there has been no country where physicians were in such great numbers as in Egypt. They inform us at the same time, that those who exercised that profession, did not undertake to treat indifferently all sorts of distempers. They had for distempers of the eyes, for those of the head, for those of the teeth. The distempers of the bowels, and the other internal maladies, had likewise their particular physicians<sup>a</sup>. The Egyptians were not a long time in comprehending that the life and study of one man was not sufficient to be instructed perfectly in all the parts of a science so extensive as physic. It was for this reason they obliged those who embraced that profession, only to apply themselves to one sort of distemper, and to make that the only object of their study. The ancient authors, by instructing us in this practice, have transmitted nothing to us of the nature of the remedies which the Egyptians used. They have only given us general notions on this subject. We know only that these people made a vast use of regimen and purging drinks<sup>\*</sup>. Persuaded that all distempers came from the aliments, they looked upon the remedies which tended to evacuate the humours as the most proper to preserve health<sup>b</sup>. We see farther, by the exposure which an ancient author has made of their system of physic, that they excluded every remedy whose application might become dangerous. They only employed those which they might use as safely as their daily food<sup>c</sup>.

It appears further, that these people were as much busied

<sup>a</sup> Herod. l. 2. n. 84.

<sup>\*</sup> They believe the purge of the Egyptians was a sort of *herse-radish*, or an herb which resembles *celery*. There are even some who will have it that it was a composition not unlike *beer*. Le Clerc hist. de la medic. l. 1. c. 18. p. 58.

<sup>b</sup> Herod. l. 2. n. 77.; Diod. l. 1. p. 73.

<sup>c</sup> Hecrat. in Busr. p. 329  
with



with the care of preventing distempers as with that of curing them. What gives room to think thus, is, that it is said, that the Egyptians used to purge every month, for three days successively, with vomits and clysters <sup>d</sup>.

The Egyptians are said to have first made known and used the oil of sweet almonds <sup>e</sup>. We may also rank in the number of medicines invented by these people, *Nepenthe*, to which Homer gives such high encomiums. Helen, as he says, had learned the composition from Polydamna, wife of Thonis king of Egypt. This medicine was so admirable that it made one forget all ills, and dissipated all weariness <sup>f</sup>.

The qualities of the *Nepenthe* of Homer have, as appears to me, a great relation to those of opium. We know that the virtue of that medicine is not only to provoke sleep; it has that of making us gay, and of producing even a sort of drunkenness. Thus we see that the Egyptian women who used a great deal of *Nepenthe*, were looked upon formerly solely to possess the secret of dissipating anger and chagrin <sup>g</sup>. Opium is at this time very much used in the east <sup>\*</sup>; a custom which we ought to regard as a consequence of the attachment which these people have always had for original practices: therefore I am very much inclined to believe, that it is of this sort of medicine that Homer would speak under the name of *Nepenthe*, and that in his time the Egyptians were perhaps the only people who knew the preparation of it <sup>†</sup>.

The manner of treating distempers in Egypt did not depend upon the will and choice of the physician. All the precepts concerning medicine were contained in certain sacred books. The physicians were obliged to con-

<sup>d</sup> Herod. Diod. *ubi supra*.

<sup>e</sup> P. Æginet. *de re med.* l. 7. c. 20.

<sup>f</sup> Odyss. l. 4. v. 220. & seq.

<sup>g</sup> Diod. l. 1. p. 109.

<sup>\*</sup> The Turks take about a drachm of it when they prepare to march to battle.

<sup>†</sup> Yet it must be agreed, that the opinions of the critics are pretty much divided about what Homer would design by the *Nepenthe*. We may consult on this subject the dissertation of Father Petit, intitled, *Homeri Nepenthes*, Traject. 1689.

form to them exactly. It was not permitted them to change any thing <sup>h</sup>. If they could not save the diseased by following that method, they were not answerable for the event; but if they rejected it, and the sick person happened to die, they were punished with death <sup>i</sup>. This subjection of the physicians of Egypt to the custom of the country is farther confirmed to us by Aristotle: he speaks of an ancient law of the Egyptians, by which it was forbid the physicians to stir the humours, that is to say, to purge the sick before the fourth day of the distemper, unless they would do it at their own risk <sup>k</sup>. We may judge after this exposure, if medicine could ever make any progress in Egypt, or be enriched with useful discoveries. The state of the diseased, the symptoms and the daily accidents, were not what determined the physicians to apply the principles of their art. The theory and even the practice being fixed, they had less need of judgment than of memory. The Egyptians apparently imagined, that all bodies were constituted in the same manner; and, against daily experience, they presumed the distempers were not combined differently.

Some authors pretend, that, with a view to make their remedies more efficacious, the Egyptian physicians added to the study of their profession that of astrology, and of certain mysterious rites <sup>l</sup>. They say, that physic in these countries was mixed with many superstitious practices <sup>m</sup>. This opinion appears probable enough. We know that these people gave themselves a good deal up to judicial astrology. Herodotus assures us that there had not been a nation more superstitious than the Egyptians <sup>n</sup>. It should not

<sup>h</sup> Diod. l. 1. p. 74.

This was a consequence of the same spirit of attachment that the Egyptians had for every thing that was established anciently. See Plato de leg. l. 2. p. 789.

<sup>i</sup> Diod. l. 1. p. 74.

<sup>k</sup> De repub. l. 3. c. 15. p. 358. or rather, according to Victorius, p. 265. on this passage of Aristotle, to alter nothing of the laws established which forbid them to do any thing before the fourth day had passed, this is conformable to the doctrine of Hippocrates.

<sup>l</sup> Scholiast. in Ptolom. Tetrabibl. l. 1.

<sup>m</sup> Conringius de Hermetica medic. l. 1. c. 12. &c.; Borrichius de orta & progressu chemiae, p. 59.; Le Clerc, hist. de la medic. l. 1. c. 5 p. 13.

<sup>n</sup> L. 2. n. 37. 65. 82.



then be surprising, that they had believed that the influence of certain planets, and the protection of some tutelary genii contributed much to the curing of distempers. Yet we must agree, that neither in Herodotus, nor in the authors of great antiquity, do we find any thing which authorises us to believe that the Egyptians employed superstitious practices in the manner of treating the sick.

We shall finish what concerns physic in Egypt, by remarking the attention the government paid to every thing that could concern the preservation of the citizens. It cost the Egyptians nothing to be attended when they were at war, or when they travelled in the kingdom. They had physicians paid with the public money, to take care of those who fell sick on these occasions<sup>o</sup>. This fact farther proves to us, that physic was not practised for nothing. It was the same with the Hebrews. Moses ordered, that if two men happened to fight, and one of them was wounded, the aggressor should render to him whom he had struck, what it should cost him for being cured<sup>p</sup>. This precept was founded, without doubt, on the practice already established, of paying the physicians for the care they took of the sick.

## ARTICLE II.

### *Of Astronomy.*

**I** Could only give very vague and very succinct notions of the state of astronomy among the Egyptians in the first ages. We have there seen, that, before Moses, these people had a solar year composed of 360 days<sup>q</sup>. It was very probably from the observation of the difference, and the inequality of the meridian shadows, that the Egyptians came to perceive that the revolution of the sun in the course of a year, greatly surpassed the duration of twelve lunations.

<sup>o</sup> Diod. l. i. p. 74.

<sup>p</sup> Exod. c. 21. v. 19. *Mercedem medici solvet*, says the Chaldaic paraphrase on this verse.

<sup>q</sup> See part 1. book 3. chap. 2. art. 2.

There is great room to think, that to measure the different heights of these meridian shadows they had used originally the gnomons which nature had shewn to them, such as trees, mountains, edifices, &c.

But natural gnomons could not furnish the means of exactly measuring the duration of a solar year; the Egyptians soon perceived their imperfection and insufficiency, nevertheless, without knowing the utility these sorts of instruments might be of. This double consideration led them to invent artificial gnomons. We cannot correct with these people the merit of having brought them first into use. It is impossible not to recognise in the obelisks, gnomons constructed, with so much care, expence, and study. For to imagine that the Egyptian monarchs, in causing these enormous masses to be cut, proposed no other end, but a foolish ostentation of their riches and their power; this is what I cannot persuade myself of. The choice of this sort of monument does not appear to me to have been made by chance. The form of the obelisks was not solely owing to caprice and fancy. The sovereigns who had caused them to be made, tried most certainly to immortalize themselves by these grand enterprises; but it was the motive of public utility, and the glory of contributing to the advancement of the sciences, which must have directed the form and choice of these sorts of monuments.

It is not, even here, a simple conjecture on our part. We have a glimpse, in a passage of Appion reported by Josephus<sup>r</sup>, that at all times the obelisks had been destined by the Egyptians for astronomic uses. This grammarian gives a description of a sort of gnomon, singular enough, which he attributes to the invention of Moses. The legislator of the Jews had invented it, says he, to answer the same purposes as the obelisks. Nothing truly can be more ill founded or more absurd, than all that Appion has related

<sup>r</sup> Advers. App. 1. 2. p. 469. edit. of Havercamp.



on the account of Moses ; but this passage at least proves, that, in antiquity, they were persuaded that the obelisks had been originally raised to serve for gnomons ; and this is all that I pretend to establish.

To the testimony of Appion let us join the authority of Pliny. According to that author, the Egyptians had cut their obelisks in imitation of the rays of the sun. He adds, that this was the name by which they designed these grand spires †. This denomination, without doubt, was relative as much to the form of these monuments as to the use for which they employed them \*.

Even though we had not precise testimonies about the use for which the Egyptians had destined their obelisks, what a nation has done which was never distinguished by its astronomic knowledge, will suffice to instruct us of it. Augustus, after having subdued Egypt, caused to be transported to Rome two grand obelisks : he set up one in the Circus, and the other in the Campus Martius. He took all the necessary precautions, that it might serve for a gnomon †. Augustus, in making this obelisk serve for astronomic observations, probably only imitated the practice of the Egyptians. These people had not invented these sort of monuments only to procure more sure and exact instruments than natural gnomons, to determine the duration of the solar year by the measure of the meridian shadows. I do not think I need repeat what I have said elsewhere of the antiquity of obelisks. I have shewn that we must fix the epoch to the reign of Sesostris, that is to say, about 1640 years before Christ †.

† Plin. l. 36. sect. 14. p. 735.

\* The Egyptians had apparently given the name of the rays of the sun to obelisks, because they could conceive the sphere of that star, as being divided into an infinity of pyramids which had their summit at the surface of his disk, and their base at the circumference of that sphere. Daviler, in his dictionary of architecture, on the word *obelisk*, advances, that the Egyptian priests called these obelisks *the fingers of the sun*, because these grand spires served for a style to mark on the earth the different heights of that star. I am ignorant from what author of antiquity Daviler has drawn this fact.

† Plin. l. 36. sect. 15. p. 736.

‡ *Supra*, book 2. chap. 3. p. 131.

These ancient gnomons were moreover greatly inferior to those invented in our times. To convince us of this, it is sufficient to cast our eyes on those which still subsist. They are cut in the form of quadrangular pyramids cut off at the top; it was impossible of consequence to determine any way the meridian, the point of the shadow formed by the summit of the obelisk: that point made part of an imperfect shadow very difficult to distinguish. It must then, in many cases, be confounded with the body of the obelisk\*. But even supposing that they could come to determine this point with exactness, they could not give the true height of the sun at noon, that is to say, that of its centre. They could only obtain the height of the north side of that star.

An ingenious people, such as the Egyptians were, must have perceived, almost from the first moment in which they employed obelisks to measure shadows, the inconveniencies of that sort of gnomon. The early knowledge which the Egyptians had acquired in geometry, suggested to them, without doubt, the ways to remedy the imperfection of their astronomic instruments. They contrived to put to the top of the obelisks a ball supported by a very small shaft, and elevated sufficiently, that the shadow which it formed should find itself absolutely disengaged from the shadow of the obelisk. The projection of that shadow on the ground near the gnomon, formed an ellipsis, by which the middle determined, by its position, exactly enough the height of the centre of the sun.

We do not find, it is true, in ancient authors any direct proof that the Egyptians were accustomed to place balls on the summit of their obelisks; but we know that Augustus had one put upon the top of the obelisk transport-

\* This must happen every time that the meridian height of the sun, that is to say, the arch of the meridian comprehended between the horizon and the sun's place, surpassed the angle which the sides of the obtuse pyramid formed, which terminated the obelisk, with the plane of its base. And it must be observed, that in Egypt, at the summer solstice, the height of the sun must be more than 82 degrees.



ed by his order into the Campus Martius \*. The same reasons which have determined me believe that that Emperor only imitated the practice of the Egyptians, in destining that obelisk to astronomical observations, make me think that it was also from their example that he added the ball of which I have spoke. Besides, we see on very ancient Greek medals, obelisks topped with a ball. We are not ignorant that the Greeks had from the Egyptians all their astronomic knowledge. Thus the academy of inscriptions, consulted by that of the sciences, about the antiquity of that usage in Egypt, have not hesitated to make it ascend to the most remote ages †.

I think then we may refer to the times which at present employ us, not only the invention of gnomons, but moreover the practice of terminating them with balls. It is probable that to this discovery we ought to attribute the reform which the Egyptians made in the duration of their solar year; a reform which had constantly taken place in the ages which elapsed from the death of Jacob to the establishment of monarchy among the Jews. This is what remains for me to discuss.

I have said before, that in the time of Moses, that is to say, about 1480 years before Christ, the Egyptian year was composed only of twelve months, of thirty days each ‡. The advantage which these people drew from their industry, by being able to procure instruments more exact than natural gnomons, was to perceive that 360 days did not contain the whole duration of the annual revolution of the sun. They estimated at first that excess to five days which they added to their year. Let us try to find in history some facts which may enable us to fix the epoch of this reform.

If we should refer to the ancient traditions of the Egyptians, we must make the establishment of the year of

\* Plin. l. 36. sect. 15. p. 737.

† Memoires de l'acad. des inscript, t. 3. hist. p. 166.

‡ *Supra*, p. 249.

365 days ascend to the most remote times. This is the fable they have propagated on this subject.

They say, that Rhea having had a secret commerce with Saturn, fell with child. The Sun, who perceived it, loaded her with maledictions, and pronounced that she should not be brought to bed in any of the months of the year. Mercury, who was also in love with Rhea, likewise succeeded to gain her good graces. She communicated to him the embarrassment in which she found herself. In acknowledgment for the favours which he had obtained, Mercury undertook to defend that goddess from the effects of the malediction of the Sun. That quickness of mind by which he is so well known, supplied him with a very singular expedient to do it. One day that he played at dice with the Moon, he proposed to play for the 72d part of each day of the year. Mercury won, and profiting by his gain, he composed five days, which he added to the twelve months of the year. It was during these five days that Rhea was brought to bed. She brought into the world Osiris, Orus, Typhon, Isis, and Nephthe\*.

I shall not endeavour to explain the mystic sense of this fable: I have only reported it to shew to what antiquity the Egyptians made the establishment of their year of 365 days ascend.

They must nevertheless have preserved some tradition of that event, less altered than that which I have just spoke of. Syncellus attributes to a monarch named Aeth, the reform of the ancient Egyptian calendar. Under that prince, says that author, the Egyptian year was regulated to 365 days, for till that time it only had 360 days†. This fact does not furnish us with any great lights about the time in which this form of the year began to have place. We know very well, it is difficult to fix the reigns of the ancient sovereigns of Egypt. Nevertheless, in collecting

\* Plut. t. 2. p. 355. D. Diodorus seems also to have had some knowledge of this allegorical fable. See l. 1. p. 17.

† P. 123. D.



the different facts which history can furnish, and by examining the form of the principal cycle which the Egyptians used, known by the name of the *canicular cycle*, we may determine the precise date of the institution of the year of 365 days.

In the description which Diodorus makes of the tomb of Osymandes, King of great Thebes, he speaks of a circle of gold whose circumference was 365 cubits, and one cubit in breadth. Each of the 365 cubits answered, says he, to a day of the year: they had marked there for each day, the rising and setting of the stars, with the prognostic of the times, conformable to the ideas of the Egyptian astrologers<sup>c</sup>. Osymandes is called Ismandes by Strabo, who adds, that the prince called Ismandes by the Egyptians, was the same as the Memnon<sup>d</sup> who is so often spoke of by the historians of antiquity, as sovereign of Ethiopia. It is very probable, that Osymandes, a very warlike prince<sup>e</sup>, had conquered that kingdom<sup>\*</sup>; an event, which may have thrown the ancients into an error. Whatever it be, we find this Memnon in some lists of the kings of Egypt<sup>f</sup>. And we know moreover, that he was extremely revered under that name among the Egyptians. His reign falls about the time of the war of Troy. We may prove this as well from the authority of Homer, of Hesiod, of Pindar, and of Virgil, as by the testimony of the most ancient monuments, such as the coffer of Cypselides, the throne of the Amyclean Apollo, the statues of Lycias, the pictures of Polygnotus, &c.<sup>g</sup>. Thus we have been before assured, that,

<sup>c</sup> L. i. p. 59. This circle was taken away by Cambyfes, when he made the conquest of Egypt. Diod. *ibid*.

<sup>d</sup> L. 17. p. 1167.

<sup>e</sup> See Diod. l. i. p. 57.

<sup>\*</sup> Ancient inscriptions, of which Tacitus speaks, attest, that Rhampses, King of Thebes, had conquered Ethiopia. Annal. l. 2. c. 60.

I should think, that this prince might well be the Osymandes of Diodorus. We know how much the Greek and Latin historians have disfigured the names of the Egyptians.

<sup>f</sup> Syncell. p. 72. & 151.

<sup>g</sup> Odyss. l. 4. v. 188. l. 11. v. 521.; Hesiod. Theogon. v. 984.; Pind. Olymp. 2. v. 148.; Pyth. 6. v. 20.; Virgil. Æneid. l. 1. v. 489.; Paus. l. 5. c. 49. & 22. l. 10. c. 31. l. 3. c. 3.

at the time of the war of Troy, the solar year of the Egyptians was of 365 days, and by consequence that the reign of Afeth must have preceded that epoch. But the examen of the cycle that the Egyptians called the canicular cycle, will furnish us with a much more precise date.

The ancients speak very often of the *great year* of the Egyptians nominated by some authors *the year of God*. Censorinus and many other writers inform us, that this year of God, which some authors also call *the heliac year*, commenced every 1461 years. It was nothing else but a canicular cycle\*. We see very plainly, that they only spoke of the duration of this cycle in the number of 1461 years, so ill applied by Tacitus for the duration of the life of Phoenix, by Dio to the Roman calendar, and by Firmicus to the general revolution of the planets.

This being granted, we find from the year 1322 before Christ to the year 139 of the Christian æra, a canicular cycle well attested by the authorities and by the calculations of a number of authors. There is not then any thing farther to be done at present, but to see if the establishment of the year of 365 days agrees with the commencement of the cycle. For it is evident, that in the times which the Egyptians give for the first time of 365 days for their year, Thoth was canicular, and one of the characters of that first year ought to have commenced with the rising of the canicular. This is a fact of which we may acquire sufficient proofs, by collecting what is said by the ancients of the manner in which the Egyptians regulated their years by the rising of the

\* The first month of the Egyptian year was called *Thoth*. When the heliac rising of the canicule fell on the first day of the month, they said that Thoth was canicular, and they comprehended under the name of canicular cycle, the time which elapsed from one canicular Thoth to the succeeding one. That interval was necessarily 1461 Julian years. For the Egyptian year of 365 days being too short by about six hours, the rising of the canicule would anticipate a day every four years, and running retrograde all the days of those years one after another during four times 365 years, or 1460 years. Thus it was only after 1461 Egyptian years, equivalent to 1460 Julian years, that the heliac rising of the canicule would return to the first day of the month Thoth, and would commence a new canicular cycle.



Dog-star \*. I think then we may fix the institution of the year of 365 days to the year 1322 before Christ †.

The manner in which the Egyptians placed their five intercalary days, was very different from that which we follow at present. They had not distributed those days in the course of a year. Thus, instead of having as we have equal and unequal months, theirs were all of 30 days each. At the end of the twelve months they placed their five intercalary days following each other, between the last month of the finishing year and the beginning of the following ‡.

By means of this correction, the Egyptians approached very near the exact determination of the solar year. They had found it very near to a quarter of a day. Their astronomers at last came even to discover that the year precisely of 365 days was too short by some hours of the solar natural year. But I doubt if they had attained to this point of precision in the ages we are now running over.

We only go step by step in the discovery of truth. The Egyptians began by perceiving the disproportion there was between the solar year and the lunar year, which had originally served them for a rule, as well as all the first people. They at first determined this excess to six days. Having afterwards found out that this number was not sufficient, they then added five days to their year. But it was not for some time after the epoch of which we are speaking in this second part, that they came to know precisely how much the duration of the solar year exceeded that of the lunar. Their

\* These people had a particular attention to the rising of the canicule, whose appearance announced the overflowing of the Nile; an attention which was one of the principal causes of the progress which they made in astronomy.

† I refer for the proof of all that I have just advanced about the epoch of the institution of the year of 365 days in Egypt, to the history of the Egyptian calendar, given by M. de la Nauze, in *les memoires de l'academie des inscriptions*, l. 14. M. p. 334.

‡ The Mexicans use them in the same manner; they place their five intercalary days at the end of the year. During these five days, which they think have been expressly left out by their ancestors, as void and without being reckoned, they abandon themselves totally to idleness, and only think of losing, in the most agreeable way possible, these days which they look upon as superfluous. *Hist. de la conquête du Mexique*, l. 3. c. 17. p. 554.

observations, for the ages we now speak of, had not acquired sufficient justness to give the exact measure of the annual revolution of the sun from west to east. The Egyptian astronomers had not then discovered that that star takes up more than six hours besides the 365 days, to return to the same point of the heavens from whence it went. This fact is not difficult to prove. It suffices to recall what I have said above of the circle of gold placed over the tomb of Osymandes. That circle, as we have seen, was divided into 365 cubits, each of which answered to a day of the year. Yet the natural year including about the fourth of a day more, it follows, that a circle thus divided into 365 equal parts could not give an exact calendar. For there is no point mentioned where they could have the part reserved for the fourth part of a day, which the true year requires besides the 365 days. Moreover, we do not see that this sort of calendar was accompanied with any rules which could correct the defect. It is for this reason, I think, the Egyptians had not discovered the true duration of the solar year till ages posterior to those which at present engage us<sup>b</sup>.

### A R T I C L E III.

*Of geometry, mechanics, and geography.*

**I** Shall not enlarge much about the progress of the Egyptians in the other parts of the mathematics of which I have to speak. I have shewn in the preceding books, that surveying must have been known very anciently among those people<sup>c</sup>. The tributes which Sesostris imposed upon all the lands of his kingdom, and the manner in which he ordered they should be gathered, must have contributed to the advancement of geometry in Egypt. The taxes were proportioned to the quantity of land each inhabitant possessed. They had even regard to the diminutions and to the

<sup>b</sup> It is also the sentiment of Marston. See p. 237.

<sup>c</sup> Part 1. book 3. chap. 2. art. 3.



alterations which the Nile might cause each year to the lands over which it extended <sup>k</sup>. Such an establishment must, without contradiction, perfect the first practices of geometry, and by a necessary consequence occasion new discoveries. Moreover, we cannot determine to what degree that science had then been carried in Egypt.

Of all the parts of mathematics, mechanics is that which the Egyptians appear to have known best in the times we are about; indeed there does not remain to us any precise testimony about the discoveries of these people in mechanics: history does not furnish us in that respect with any lights. But as it is certain that the Egyptians had cultivated geometry in the first times, and that it is by the application of the theories of that science to the different questions which concern motion and the equilibrium, in which consist mechanics properly so called; there is great room to presume that these people corrected readily their first practices, and rectified and subjected them to some fixed and constant methods. It would be difficult enough in reality to conceive, that without any other guide but a blind practice, and destitute of principles, the Egyptians could have elevated on their basis such masses as the obelisks <sup>l</sup>.

It may be asked, what machines the Egyptians used for such works? Were they like ours? Lastly, did they execute these grand enterprises with less apparel than the celebrated Fontana used when he set up again the same obelisks by the order of Sixtus V.? That is what we know not how to decide. We only see that the Egyptians took very extraordinary precautions and measures, to execute such like undertakings <sup>m</sup>.

Geography also received great increase amongst the Egyptians in the ages which we are now employed about. The

<sup>k</sup> See Herod. l. 2. n. 109.

<sup>l</sup> See *supra*, book 2. chap. 3. p. 132.

Yet we must say that Zabaglia, who had lately drawn from the earth an obelisk, was absolutely ignorant of mathematics, and only worked from genius and practice. See Trev. Mai, 1751. p. 1202.; Acad. des inscript. t. 23. mem. p. 370.

<sup>m</sup> See *supra*, book 2. chap. 3. p. 132.

vast conquests of Sesostris contributed greatly to the progress of that science. That monarch applied himself to have a map made of all the countries which he had gone over. He did not content himself with having enriched Egypt with his geographical productions ; he had still a further care to make them disperse copies even into Scythia, from a desire to make his name go into the most distant climates <sup>n</sup>.

The memory of these maps of Sesostris was perfectly well preserved in antiquity. In the poem composed by Apollonius Rhodian on the expedition of the Argonauts, Phineas King of Colchis predicted to those heroes the events which should accompany their return. Argus, one of the Argonauts, explained that prediction to his companions, told them that the route which they must keep was described on tables, or rather on columns which an Egyptian conqueror had before left in the city of Oea, capital of Colchis. He adds, that the whole extent of the roads, the limits of the earth and the sea were marked on these columns for the use of travellers <sup>o</sup>. The scholiast of Apollonius calls the Egyptian monarch Sesonchosis, of whom mention is made in this passage : but he observes that many authors also called him Sesostris <sup>p</sup>. We know moreover, that this prince had conquered Colchis, and that he had even left there a colony <sup>q</sup>.

For the rest we ought not to be surprised that geography made so great a progress in Egypt. At all times the learned of that nation had made it a particular study. That science was one of those to which the priests particularly applied themselves <sup>r</sup>.

I could yet speak more largely about the geographical knowledge of which we find so many proofs in the writings of Moses. I have already spoken of it in the first part of this work <sup>r</sup>. The division of the land of promise begun by Moses, and finished under Joshua, gives a very perfect testimony of the progress which geography had made at that

<sup>n</sup> Eust. in *fine* epist. ante Dionys Perieg.

<sup>o</sup> L. 4. v. 272. &c.

<sup>p</sup> Ibid. ad vers. 272.

<sup>q</sup> Herod. l. 2. n. 103. & 104.

<sup>r</sup> Clem. Alex. Strom. l. 6. p. 757.

<sup>r</sup> Book 3. chap. 2. p. 258.



time <sup>t</sup>. We cannot help being struck when we read in the Bible the circumstances and the detail of that division. That fact alone will suffice to convince us of the antiquity and assiduity with which certain people had applied to geography. The degree to which we shall see that this science was carried in the time of Homer, will be sufficient to give us a complete proof of it. I shall give an account of it in the third part.

In treating of the article of sciences among the Egyptians, we must not forget one circumstance which does honour to these people. It was among them that we find the example of the most ancient library spoken of in history. Among the number of buildings with which the superb tomb of Osymandes was accompanied, there was one which contained the sacred library <sup>u</sup>. One read above it this inscription, *The remedies of the soul* <sup>\*</sup>.

### C H A P. III.

#### *Of Greece.*

**T**HERE is scarce any nation which has not pretended to have invented the arts and the sciences. I have shewn in the first part of this work, to what degree this pretension might be depended upon. It is certain, that each people has had notions about the first practices which have given birth to arts and sciences. But it is equally true that these first notions were readily perfected in certain countries, while in others the people remained a long time confined to those gross practices which we ought not to honour with the name of sciences; perhaps even these nations would never have attained to more elevated theories, if they had not been instructed by colonies which came from countries more en-

<sup>t</sup> Deut. chap. 3. v. 12.; Jos. chap. 13. & chap. 18.

<sup>u</sup> Diod. l. 1. p. 58. See what I have said of this monarch, book 3. chap. 2. art. 2. p. 255.

<sup>\*</sup> Diod. *loco cit.*

lightened. It is in this sense that we should regard the first inhabitants of Asia and of Egypt, as the masters who have shewn to the nations of Europe the greatest part of the arts and sciences which we now enjoy. The sciences had already made a pretty great progress in the east at the time when the Greeks scarce knew the first elements.

Greece had produced formerly many famous personages to whom certain writers of that nation would give the honour of the invention of arts and sciences. But the best Greek authors have paid no regard to these popular traditions. They have been the first to ridicule them, and to acknowledge that it was from Egypt and Asia that Greece had all its knowledge. The traditions of which I speak attribute, for example, the invention of arithmetic to Palamedes<sup>x</sup>. Plato with reason takes away the absurdity of such an opinion. "What then," says he, "without Palamedes, Agamemnon "would have been ignorant of the number of his fingers?" We must form the same judgment of the other discoveries of which the common people among the Greeks make the great men of the heroic ages pass for the authors. We know in what time these boasted personages lived, and these times are greatly posterior to the coming of the first colonies from Asia and from Egypt into Greece. This is sufficient to demonstrate the forgery of the facts with which certain writers would embellish the history of the ancient heroes of Greece. We can only say in their honour, that having perfected the first knowledge that Greece had originally received from the east, they merited in some sort to be looked upon as the inventors.

Without speaking of the Titan princes, of Inachus and Ogyges, we should regard Cecrops, Danaus, and Cadmus, as the authors of the greatest part of the knowledge which, in succeeding times, has distinguished so advantageously the Greeks from other people of Europe. These first tinctures, it is true, must have been imperfect enough. The sciences, at the time of the transmigrations of which I speak, had not

<sup>x</sup> See Plato de rep. p. 697.

<sup>z</sup> *Loco supra cit.*



yet acquired in Asia and in Egypt the degree of perfection to which they came afterwards in those climates. A colony, moreover, could not communicate to a nation among whom they were going to settle, all the discoveries which the country enjoyed from whence they came. Even what they brought, would only thrive by length of time. Thus we see, that, for many ages, the sciences only languished among the Greeks. It was necessary to bring them out of that state of infancy, that men of a superior genius, perceiving what their nation wanted, should ascend, if I may so say, to the source which had given to Greece its first instructions. They went to draw anew from Egypt and Asia the lights of which they had need. By these voyages they enriched their country with new discoveries; and the disciples soon surpassed their masters. These facts appertained to ages of which I have no occasion to speak. Let us confine ourselves to our object. Let us examine the state of sciences among the Greeks in the times which actually fix our regard: these are them which are designed in antiquity by the name of the *heroic times*.

## ARTICLE I.

### *Of Medicine.*

**I**T is useless to observe, that originally among the Greeks, as well as among all the nations of antiquity the professions of physician, of surgeon, and apothecary, were united in the same person. That part of medicine which was employed in curing internal distempers, was scarce known to them<sup>a</sup>. We scarce find any examples of cures of such like distempers. Here is one nevertheless which merits on many accounts our attention. Fable has extremely disfigured it; but it is not difficult to pick from it historical foundations. This fact may serve to make known in what

<sup>a</sup> See part 1. book 3. chap. 1.

manner many of the remedies had been found : it will also give us room to make some reflections about the recompenses which they gave to the ancient physicians when they succeeded.

History says, that there had happened a most strange accident to the daughters of Prætus, King of Argos. They thought they were metamorphosed into cows <sup>b</sup>. Fable attributed this singular delirium to the wrath of Bacchus, or to that of Juno <sup>c</sup>; but it is easy to perceive it was the effect of a distemper of which the physicians report various examples <sup>d</sup>. Abas, who had possessed the throne of Argos before Prætus, had left by Idomeneia his daughter, a grandson named Melampus <sup>e</sup>. This prince was given to a pastoral life, according to the usage of the early times, when the children of kings and of gods, that is to say, kings themselves, often kept their owns flocks. The profession of a shepherd gave an opportunity to Melampus of making some discoveries in physic. He passed in antiquity for the first of the Greeks who had found out purges <sup>f</sup>. Melampus had remarked, that when the goats had eat hellebore, they were violently purged; he thought of having the milk sent to the daughters of Prætus. Others say; that he gave them hellebore alone. It appears, that Melampus joined to that receipt some superstitious remedies <sup>g</sup>. He is the first that is said to have put in practice in Greece these pretended means <sup>h</sup>. However it was, Melampus succeeded in curing the daughters of Prætus of their madness.

The physicians of the heroic times did not undertake to cure the sick but for a good sum. The recompense which Melampus required is a proof of it. He demanded first the third part of the kingdom of Argos. The Argives, after some

<sup>b</sup> Virgil. eclog. 6. v. 48. ; Servius *ad hunc loc.*

<sup>c</sup> Apollod. l. 2. p. 68.

<sup>d</sup> See P. Aigineta. l. 3. *de Atra-bile.* ; Le Clerc, *hist de la medec.* l. 1. p. 4.

<sup>e</sup> Apollod. l. 2. p. 68. & 69.

His father called him Amythaon. Melampus lived about 150 years before the Greek Æsculapius.

<sup>f</sup> Apollod. l. 2. p. 69.

<sup>g</sup> Apollod. *ibid.* ; Ovid. *Metam.* l. 15. v. 325. & seq. ; Servius *ubi supra.*

<sup>h</sup> Herod. l. 9. n. 49.



difficulties, having consented to it, Melampus added to his first demand, that of a third of the same kingdom for his brother Bias. History says, that as all the Argives became mad, they were obliged to agree to all his pretensions <sup>i</sup>. It is true, that other historians relate the fact in a manner much more natural. They say it was the King of Argos, who, as an acknowledgment, divided his kingdom with Melampus and Bias his brother <sup>k</sup>.

This is not, lastly, the only example that antiquity gives us of such like recompenses granted to physicians. I shall very soon have occasion to relate another. Nevertheless, we shall cease to be astonished at it, when we shall have reflected that these physicians were the sons or grandsons of sovereigns.

We also find another example of cures attributed by antiquity to Melampus. But fable has so disguised the fact, and the circumstances agree so little with chronology, that I have not thought proper to relate it <sup>l</sup>.

All that I could collect about the curing internal distempers in the ages of which we now speak, is nearly reduced to this. I have already had occasion to remark, that formerly this part of medicine was almost entirely unknown. The science of the first physicians only consisted in the practice of surgery <sup>m</sup>. The ancients have very well observed, that although they had physicians in the Greek army before Troy, Homer does not say, that they were employed in the plague with which the camp was afflicted, or any other sort of distemper. They were only called to heal the wounded <sup>n</sup>. Our reflections then ought only to fall upon the manner in which, in the heroic times, the Greeks treated wounds. Homer will give us some examples.

<sup>i</sup> Herod. l. 9. n. 33.; Apollod. l. 2. p. 69.

Servius says only that Melampus made it in his bargain, that they should give him in marriage one of the daughters of Praetus, called Cyrianassa, with half of the kingdom. *Ad eclog.* 6. v. 48.

<sup>k</sup> Diod. l. 4. p. 313.; Paus. l. 2. c. 17.

<sup>l</sup> See Le Clerc *hist. de la medec.* l. 1. p. 26. & 27.

<sup>m</sup> See Apollod. l. 3. p. 172.; Plin. l. 29. c. 1. *init.*; Hygin. *fab.* 274. p. 328.; Cels. l. 1. *in praefat.*

<sup>n</sup> Cels. *loco cit.*

In the Iliad Menelaus is wounded with an arrow in the side: they make Machaon immediately come to heal him. The son of Æsculapius, after having considered the wound, sucks the blood, and puts on it a dressing to appease the pain °. Homer does not specify what entered into that dressing \*. It was only composed, according to all appearances, of some bitter roots. This conjecture is founded on this, that in the description which the poet gives of the healing of such a wound, he says expressly, that they applied to the wound, the juice of a bitter root bruised †. It appears, that this was the only remedy which they then knew. The virtue of these plants is to be styptic. They use them for hindering suppuration, and by that means to procure a reunion of the wounds more readily. These bitter roots had the same effect as brandy and other spirituous liquors, of which they make use at this time. But these sort of remedies must have caused much pain to the wounded, by the irritations and inflammations which they could not fail of occasioning ‡.

I had forgot to say, that their first care at that time, was to wash the wounds with warm water §. We see also, that after that they knew and practised the suction ¶.

° L. 4. v. 218. & 219.

\* Plato, repub. l. 3. p. 623. has cited this wound of Menelaus for an example of the manner in which they cured wounds in the heroic times; but as he makes use of the expressions of Homer, he can give us no insight into the nature of the remedies that Homer means.

† Πίζαν πιχρὴν. Iliad. l. 11. v. 845. 846.

‡ This is what makes me think, that we must not take literally the epithets which Homer gives to these sort of remedies. He calls them *πικρά, ὀδυνήφата φάρμακα*, *soft remedies, alleviating*. I think, that by these terms the poet would only say, that these remedies alleviated the pain, by procuring the healing of the wounds. See Iliad. l. 5. v. 401.

§ Iliad. l. 11. v. 845. l. 14. v. 6. & seq.

¶ Ibid. l. 4. v. 218.

It must be agreed, that the word *ἐκμύζοντας*, which Homer uses on this occasion, is susceptible of two interpretations; for it may also signify simply *to wipe the wound after having pressed it*. This is the sense which Le Clerc has followed. Hist. de la médecine, l. 1. p. 49. & 50.

But besides that many interpreters have thought, that on this occasion Homer had intended to mean *suction*, I am determined by the authority of Eustathius, who takes it in this sense. He even adds, that in his time, among the most barbarous nations, they practised this remedy which would succeed commonly.



We must also observe, that all the offensive arms which they used in the heroic times were of brass <sup>f</sup>. There is room to think, that wounds made with such arms, were not as difficult to cure as wounds made with arms of iron <sup>†</sup>. In as much as the rust of copper taken internally, is pernicious and mortal, by so much is it useful when employed externally. Verdigrease deterges and dries the ulcers; it consumes the fungus and superfluous flesh. They make also a very salutary use of vitriol to abate inflammations. There could result none but good effects from the copper remaining in the wounds. That metal has in itself a styptic virtue. The filings of copper enter into the composition of many remedies which they use to prevent the corruption of the flesh. Some authors even pretend, that a nail of brass put into the flesh of a dead animal will hinder it from corrupting <sup>‡</sup>. Finally, the discovery of the property of copper for healing wounds is very ancient. All antiquity agrees to say, that Achilles had cured Telephus with the rust of his lance, of which the point was copper. This hero passes for the first who had found out the good effects of verdigrease in the treatment of wounds <sup>§</sup>.

The notion, that, by the virtue of certain words, they could stop the blood and heal wounds, is a very ancient superstition. At this time men are not so infatuated with them. These illegitimate means which a false religion had given birth to, and which credulity had maintained, were in use at all times and among all people <sup>¶</sup>. Homer furnishes us with very striking proofs of the credit which the Greeks gave to these impostors. Ulysses relates, that having been dangerously wounded by a wild boar, the sons of Autolycus bound up the wound, and stopped the blood by pronouncing certain words <sup>‡</sup>. There is also great reason to think, that

<sup>f</sup> See *infra*, book 5. chap. 3.

<sup>†</sup> It is the sentiment of Aristotle, problem. 35. sect. 1. p. 683. See also Plut. t. 2. p. 659.

<sup>‡</sup> Plut. t. 2. p. 659.; Journ. des sçavans, Juillet 1678. p. 159.

<sup>§</sup> Plin. l. 25. sect. 19. p. 365.

<sup>¶</sup> See Le Clerc. hist. de la med. part 1. l. 1. p. 35. & seq.

<sup>‡</sup> Odyss. l. 19. v. 457.; Plin. l. 28. c. 2. p. 446.

there was much superstition in the wonderful knot, the invention of which they attributed to Hercules. The ancients pretended, that that knot had a very particular virtue for healing wounds <sup>a</sup>.

The care of regulating the nourishment of the wounded is one of the principal objects of physic. It is of absolute necessity and of very great consequence, to prescribe, on these occasions to the sick, rules for eating and drinking. We are always surpris'd at the regimen which Homer makes his wounded heroes observe. Machaon, son of Æsculapius, was himself a very able physician. He was a soldier as well as a physician. He was wounded dangerously in the shoulder in a sally which the Trojans made. Nestor immediately brought him back to his tent. Scarce are they entered there, but Machaon took a drink mixed with wine, in which they had put the scrapings of cheese and barley-flour <sup>b</sup>. What ill effects must not this mixture produce, since wine alone, in the opinion of persons of skill, is very opposite to the healing of wounds? The meats which Machaon afterwards used, do not appear any way proper for the state in which he found himself <sup>c</sup>.

The conduct which Homer makes his heroes observe, is so extraordinary, that Plato could not help remarking it; but, at the same time, he endeavours to find, in the manner of living in the heroic times, reasons for excusing such a regimen. Yet I doubt, if the motives on which Plato founds the defence of Homer, be as solid as they are ingenious <sup>d</sup>. It is

<sup>a</sup> Plin. l. 28. c. 6. p. 455.

<sup>b</sup> Iliad. l. 11. v. 506. 507. & 637. &c.

Mad. Dacier has translated ἄλφιτα λευκά by *wheat flour*. But it is certain, that ἄλφιτον never signified but barley-flour. See Plat. repub. l. 2. p. 600.

Besides we know, that the mixed drink which Homer calls κρυάον, they made anciently with barley-flour. See the schol. of Euripid. *ad Orest.* p. 209. edit. Steph.

<sup>c</sup> Iliad. l. 11. v. 629. <sup>d</sup> In Ione, p. 366. ; repub. l. 3. p. 622. & 623.

Plato had not Homer before him when he writ this part of his Republic. He confounds the personages, by saying, that it was Eurypilus who took the drink in question. It was, according to Homer, Machaon himself. We do not see that Eurypilus, after he is wounded, is said to have taken any thing. It is a small inattention of Plato, into which M. Le Clerc has equally fallen. *Hist. de la med.* l. 1, p. 42.



better to attribute, with a very learned author in these matters, this irregular conduct to their ignorance of the true principles of medicine. It is certain, that, in the heroic times, that part of this science which concerns the dieting of the sick was absolutely unknown <sup>c</sup>.

I have said in the first part of this work, that, according to all appearances, they did not know to bleed anciently. That remedy does not seem to have been in use among the Egyptians. With respect to the Greeks, we do not find the least trace of it in Homer; yet bleeding must have been known and practised in the heroic times, if we would refer to the testimony of *Ætien of Byzantium*. That geographer says, that *Podalirus*, brother of *Machaon*, returning from the war of Troy, was thrown by a tempest on the coast of *Caria*. The report being spread, that he was a physician, they brought him to King *Damætus*, whose daughter had fallen from the top of a house. They say, he cured her by bleeding her in both arms <sup>f</sup>. The King, in acknowledgment, gave him that princess in marriage with the *Chersonesus*. As we are ignorant from whence *Ætien of Byzantium* had taken this history, and that he is the only one who speaks of it, there is great room to doubt of it; so much the more as this geographer is an evidence too modern with relation to times so remote as those of which we speak <sup>\*</sup>.

We have seen in the first part of this work, that, among the people of the east, the care of labours had been originally intrusted to the women. It had not been the same with the Greeks in the first ages. It was expressly forbidden the women to exercise any parts of medicine, without even excepting that of delivering women. This prohibition had had very bad consequences. The women could not resolve to call men in these critical moments. For want of help many perished in their labours. The industry of a young Athenian woman who disguised herself

<sup>c</sup> Le Clerc. *hist. de la med.* l. 1. p. 44.

<sup>f</sup> Stephan. *in voce* *Συγνα*, p. 625. & 626.

<sup>\*</sup> Thom. de Pinedo conjectures, that *Ætien of Byzantium* writ between the 49<sup>th</sup> and 50<sup>th</sup> year of the Christian æra. Fabricius thinks, that it might be more ancient by 100 years. *Bibl. Graec.* l. 3. p. 46.

like

like a man to learn physic, drew the women out of this scrape. They had remarked, that this pretended physician was the only one which the women used. This raised suspicions. They carried her before the Areopagus to give an account of her conduct. Agnoditia (for that was the name of our young Athenian) had no trouble to draw the judges from their error. She explained the motive of her disguise. This adventure was the cause of the abrogation of the ancient law. Since that time, the women have had permission to preside at labours <sup>g</sup>.

The princes and kings at this time did not despise the practice of physic. Almost all the famous personages of the heroic ages, were distinguished for their knowledge in that art. They reckon in this number Aristæus, Jason, Telamon, Teucer, Peleus, Achilles, Patroclus, &c. They had been instructed by the Centaur Chiron, whose skill and knowledge at that time had rendered him the oracle of Greece. They were particularly attached to the knowledge of simples. They design even now many plants by the name of some one of these heroes; a proof, that in antiquity they passed for the first who discovered the virtues of them <sup>h</sup>.

We could join to these illustrious personages Palamedes. It is not that he had applied to know the secrets of medicine. He had refused to be instructed in that science by Chiron. Palamedes was a fatalist, and consequently looked upon medicine as a knowledge odious to Jupiter and the fates. The example of Æsculapius being thunder-struck, frightened him <sup>i</sup>. But as the penetration of his mind was equal to every thing, they say, he hindered, by his advice, the plague which ravaged all the cities of the Hellespont, and even Troy, from attacking any person in the Grecian camp, although the place where the camp was situated was very unwholesome. Palamedes, they add, had foreseen this plague, because the wolves descending from Mount Ida rushed upon the beasts, and even upon the

<sup>g</sup> Hygin. fab. 274. p. 328.

<sup>h</sup> See Le Clerc. hist. de la med. l. i. p. 30.

<sup>i</sup> Philostrat. heroic. c. 12. p. 708.



men. The means which he used for hindering the army of the Greeks from being attacked with the plague, was to order them to eat little, and particularly that they should abstain from flesh. He enjoined them also to use much exercise. They say, this advice had all the success possible <sup>k</sup>.

If this fact had been well proved, we might say, that, on the subject of medicine, Palamedes knew more than all the Greeks, without excepting Podalirius and Machaon. But all this fine story does not deserve the least credit. I should not have had occasion to have spoke of it, if, false as it is, it had not served to confirm what I have said precedently about the discoveries which some Greek writers would give the honour of to their heroes. To destroy all these traditions, it suffices to open Homer, whose testimony ought to have so great a weight in every thing which concerns the heroic times. This poet says expressly, that the Greeks were a prey to the deadly arrows of Apollo. We see nothing every where, but heaps of dead upon the piles which burn without ceasing <sup>l</sup>.

I shall only speak one word of Medea. That princess passed in antiquity for a very famous magician. She would not probably have had this bad reputation but for the knowledge she had acquired in botany, and the criminal use she too often made of it. They have seen her do surprising cures. They knew also, that by her secrets she often got rid of those who had drawn upon them her enmity; they needed no more to make her to be looked upon, in these times of ignorance, as a magician of the first order.

Among all the surprising things she had done, there was none more celebrated than the making old Æson young, the father of Jason her lover. Ovid has described this fable in a very elegant and pathetic manner <sup>m</sup>. Many mythologists have endeavoured to give a reasonable meaning

<sup>k</sup> Philostrat. heroic. c. 10. p. 710. & 711.

<sup>l</sup> Iliad, l. 1. v. 51. & seq.

<sup>m</sup> Metam. l. 7. v. 162. & seq.

to this absurd tale. There are some who have thought that they had got a glimpse of it from an experiment which they took a great deal of pains about at the end of the last age. I mean the transfusion of blood, a remedy which they tried many times with ill success<sup>a</sup>. Others search for the origin of that fable in a tradition which imports, that Medea knew herbs, whose virtue was to make white hairs black<sup>b</sup>. But all these explications are not supported on any historical foundations<sup>c</sup>.

## A R T I C L E II.

### *Of Mathematics.*

THE Greeks, in the ages of which we at present speak, had only very contracted notions of mathematics. What they knew in it does not merit the name of science. We are always astonished, when we compare the brilliant ages of that nation with its beginnings. Their genius has been far from being unfolded as readily as that of the people of the east. Compare the Greeks of the heroic ages to the Phœnicians of the same ages, and we shall find almost as much difference between them as between the most policed people of Europe, and the nations of America the moment they were discovered. The Greeks even did not know to put in practice, till very lately, the knowledge which the Asian and Egyptian colonies had imparted to them. However imperfect we suppose these first tinctures, the little use which the Greeks made of them for almost 1000 years will always be a great subject of astonishment.

<sup>a</sup> Bannier explic. des fables, t. 6. p. 459. & 460.

<sup>b</sup> Clem. Alex. Strom. l. 1. p. 363. See le Clerc hist. de la medecine, l. 1. p. 65.

<sup>c</sup> Bannier, *loco cit.* p. 460.



## § I.

*Of Arithmetic.*

**I**T is impossible to give even imperfect and vague notions of the state and progress of arithmetic in Greece for the heroic ages. Antiquity does not furnish us with any lights about the first methods that the Greeks had made use of to make their calculations. I shall content myself with proposing some conjectures about the arithmetical symbols used anciently among these people.

The Greeks, like all the nations of antiquity, had no knowledge of figures properly so called, that is to say, characters solely destined to express numbers. They made serve for this purpose the letters of their alphabet, divided and ranged in different manners. It appears, that at first they designed numbers by the initial letters \*, to which they afterwards added the numeral letters †. The first being, if one may say so, only the abridgment of the names of number, they ought to have made use of them before they gave to the letters of the alphabet a value dependent, not only of the rank which they held, but even an arbitrary agreement, which is plain from the manner of expressing units, tens, hundreds, &c. This second operation is much more complicated than the first. It could not be introduced, till they had received from the Phœnicians

\* This method could not have had place in the case where the same initial letter agreed to many names of different numbers. It would be difficult, for example, to make use of *Epsilon*, for the numbers *six*, *seven*, *nine*, ἑξ, ἑπτά, ἐννέα, when it was necessary to express them in one and the same calculation. They must necessarily, in that case, have had error and confusion, to design those numbers by the initial letter of their name. We are ignorant in what manner the Greeks in the first ages remedied this inconveniency. But the monuments which still subsist, do not permit us to doubt of the great use they made, generally speaking, of initial letters, of the names of numbers to express their value in an abridged way.

† See les mem. de l'acad. des inscript. t. 23. mem. p. 416. &c.

the *Episemons*, *Bau*, *Koppa*, and *Sampi*\*, which appear to have come later into Greece than the greatest part of the other characters.

In the times of Herodian, the first manner of reckoning still existed in the laws of Solon, and on ancient columns†. It was perpetuated among the Athenians; but, as it had been insensibly abandoned by the other cities of Greece, from thence it comes, that the grammarians, such as Terentius Scaurus, and Priscian, never speak of it but as a custom particular to the Athenians‡.

It is clear, notwithstanding, that, at the beginning, this custom must have been common to all the people of Greece. We find proofs of it in some fragments of very ancient inscriptions§. But we must agree at the same time, that the other method of reckoning, that is to say, by numeral letters, was introduced very early into many districts of Greece¶.

I should like to have been able to have spoken more ex-

\* It is the name which the Greeks gave to three characters, which they added to the 24 letters of their alphabet, to extend and facilitate the practice of calculations. These characters were formed thus ς, ϗ, Ϙ, and represented the numbers 6, 90, & 900. The 24 letters of the alphabet, taken according to the order that they had given to them originally, marked the numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 100, 200, 300, 400, 500, 600, 700, & 800. The combination of the eight letters ι, κ, λ, μ, ν, ξ, ο, π, and of *Koppa* ϗ, with the first eight α, β, γ, δ, ε, ζ, η, θ, and with the *episemon* *Bau*, ς, served to express all the intermediate numbers between 10 & 20, between 20 & 30, and thus following to an hundred. Lastly, the eight letters ϑ, σ, τ, υ, φ, χ, ψ, ω, and the *Sampi* Ϙ, combined together as well with the six preceding and the two first *épisemons*, as with the combinations of the first eight augmented with *Bau*, and with the eight intermediate ones, augmented with *Koppa*, express all the numbers which are between 100 & 200, between 200 & 300, &c. to 1000. All these characters, as well simple as compound, were accented at the top.

To express all the numbers which are between 1000 & 1000000, they did not use new numerical symbols, they contented themselves with only removing the accent to the inferior part of the character, which without that only meant units, tens, hundreds; this new position of the accent determined the character to represent units, tens, and hundreds of thousands.

† See his treatise περί τῶν ἀριθμῶν.

‡ Terent. Scaurus de orth. p. 2258. edit. de Putf.; Priscus, de fig. num. p. 1345.; Acad. des inscript. t. 23. mem. p. 417.

§ See Acad. des inscript. t. 23. mem. p. 416. & 417.

¶ Ibid. loco cit.



tensively of the origin and state of arithmetic among the Greeks in these early ages. The silence of ancient authors has not permitted me. It would be difficult to supply it by conjectures, which besides would necessarily have this defect, to be very uncertain and very arbitrary. Astronomy will furnish us with more matter for our researches.

## § II.

*Of Astronomy.*

**N**Othing shews better the little disposition the ancient Greeks had for the sciences, than the state of imperfection in which astronomy had languished among them during so many ages. It is certain, that at the times of which we now speak, and very long after them, their calendar was very imperfect. It was, without doubt, because the Greeks did not give themselves up to agriculture till pretty late, and that they had been a very long time without undertaking navigations of a great extent \*.

It appears nevertheless, that that nation had never wanted astronomers. The greatest part of the famous personages of the heroic ages were said to have applied themselves to the study of the heavens. There is scarce one of them, to whom they have not attributed some astronomical discoveries †. If we would even believe Philostrates, Palamedes had been instructed enough in that science to explain the cause of the eclipses of the sun ‡. I have already sufficiently explained myself as to what we should think of the pretended discoveries of these heroes; it would then be losing of time to stop any longer about it.

There is great reason to think, that, in the beginning, the Greeks did not reckon their years but by the seasons; and yet there was not, in that respect, a uniformity between

\* See *supra*, book 2. chap. 1. p. 174. &c. et *infra* book 4. chap. 4.

† See Lucian. de astrol. t. 2. p. 364. & seq.; Achil. Tat. *Isag. init.*

‡ Heroic. c. 10. p. 709.

the different people of Greece. The Arcadians, who passed for the first who had endeavoured to make themselves a calendar, originally made the year of three months, and afterwards of four. The Argives and the Acarnanians gave six to theirs<sup>a</sup>.

We cannot fix the age in which the Greeks came to accommodate in a reasonable way the duration of their years to the course of the seasons. Anciently their years were purely lunar<sup>b</sup>. The Greeks were not long of perceiving how irregular that manner of dividing the time was. In less than seventeen of these years, the order of nature was absolutely reversed; summer taking the place of winter, and winter that of summer. They were obliged to have a remedy for these inconveniencies. The Greeks invented successively different periods, or cycles, to make the duration of their years concur with the periodical return of the seasons; but they wanted the most essential sciences, without which it was not possible to succeed in such an enterprise. We have a striking proof of this, even in the nature of these periods. The first was the *Dieteride*.

This period supposed that twenty-five lunar revolutions answered exactly to two solar revolutions. In consequence of this false principle, the Greeks believed they had found the true means of bringing back again the different months of their year to the same season, by intercalating a thirteenth month every other two years, in such a way that the years were alternatively of twelve and of thirteen months<sup>c</sup>. They called that period *Dieteride* or *Trieteride*, that is to say, a period of two years, or a period of three years, because that intercalation did not take place but each third year, after two years revolution<sup>d</sup>.

<sup>a</sup> Plin. l. 7. c. 48. p. 403.; Censorin. c. 19.; Solin. c. 1. p. 4.; Plut. in Numa, p. 72. B.; Stob. eclog. phys. p. 21.; August. de civit. Dei, l. 15. c. 12. p. 129.; Macrob. Saturn. l. 1. c. 12. p. 242.

<sup>b</sup> Solin. c. 1. p. 4.; Suid in Ἐνναυτὸς, t. 1. p. 747.; Macrob. Saturn. l. 1. c. 12. p. 242. c. 13. p. 251.

We shall afterwards see the proof of what we are going to report of their ancient periods, which necessarily suppose lunar years of 354 days.

<sup>c</sup> Censorin. c. 18.

<sup>d</sup> Ibid.



The Greeks were not a long time without discovering the imperfections of that reform \*. They imagined then to double the interval of the intercalation of the thirteenth month, and not to make that intercalation till four years had revolved, or, what is the same thing, at the beginning of each fifth year. It is from hence that that second period took the names of *Tetraeteride* and *Pentaeteride*, under which names it has been equally known †. Lastly, as the *Tetraeteride* was still more defective than the *Dieteride* ‡, the Greeks invented a third, which they called *Octaeteride*, or *Enneateride*, observing that this new cycle commenced every ninth year §. Authors are divided about the manner in which the intercalation was used in this third period. Some say, that they intercalated three months after eight years had revolved; others say, that the Greeks added every eighth year an intercalary month, and it was in this that their *octaeterides* consisted ¶. Macrobius pretends, that they had seven common years of 354 days each, and that the eighth year they intercalated the ninety days which eight solar years surpass eight lunar years §.

I think that the *Enneateride* had place in Greece in the time of Cadmus. We see, in effect, that, under this prince, there was mention made of a *great year*, and that that *great year* was of eight years †. We are not ignorant that the ancients, by these *great years*, understood the periods invented to reform the duration of the ordinary years,

\* The *Dieteride* exceeded the duration of two solar years about seven days. It of consequence occasioned 28 days, that is to say, near a month's error every eight years.

† Censorin. c. 18.

‡ It must have been 15 days, or 15 days and a half, that 49 lunar months wanted of four solar years. Thus the *Tetraeteride* made from thirty to thirty-one days of error every eight years, near three days more, of consequence, than the *Dieteride*. But the irregularity caused by that period, acted in a quite opposite order. The *Dieteride* kept back the return of each month, with relation to the season to which it should appertain, and the *Tetraeteride* on the contrary advanced it.

§ Censor. c. 18.

¶ Newton's chronology of the Greeks, p. 78. & 79.

\* Saturn. l. i. c. 13. p. 251.; see also Suidas, in *Ἐννεατὴρ*, t. i. p. 747.

† Apollod. l. 3. p. 137.

and to bring them back to the order of the seasons and the revolution of the stars. I still think we have a glimpse of the traces of this period in the manner in which the ancients say that Minos published his laws<sup>i</sup>. The using of all these different cycles proves plainly the ignorance and incapacity of the Greeks in astronomy at this time.

In course of time, they applied themselves to find out means more proper to regulate with exactness the duration of their years. The ancient annals of Greece attribute these first researches to an answer of the oracle of Delphos. The oracle having said, that they must celebrate the solemn feasts not only according to the usage of their country, but further, that they ought to observe there *three things* \*, the Greeks thought that by these *three things*, the oracle had ordered them to have regard to days, to months, and to years; they imagined, that, for this effect, they ought to regulate the years by the course of the sun, and the months by that of the moon<sup>k</sup>.

The authors from whom we have this fact, do not tell us the time in which they applied themselves to conform to the orders of the oracle; but it is certain, that there passed many ages before the Greeks were instructed in the means proper to conduct them to the end which they proposed to themselves.

According to the testimony even of the most esteemed of their writers, these people before the reign of Atreus had not yet given attention to the proper motion of the sun from west to east. They say this prince was the first who instructed the Greeks in it<sup>l</sup>. We are not ignorant that the reign of Atreus only preceded the war of Troy sixteen years. Philostrates, at the same time that he will do honour to the exalted knowledge of Palamedes, is forced to confess that then they had neither rules nor measures for the

<sup>i</sup> See Marsh. p. 613.

\* Κατὰ γ'.

<sup>k</sup> Gemin. apud Petav. Uranol. c. 6. p. 32.

<sup>l</sup> Strabo, l. 1. p. 43.; Lucian. de astrol. t. 2. p. 365. & 366.; Achil. Tat. Imag. p. 147.



months and for the years <sup>m</sup>. It must then be looked upon as certain, that all the practices which the Greeks used in the heroic times, were very imperfect.

Some moderns nevertheless have imagined, that the enterprise of the Argonauts had caused a great progress to be made in astronomy in Greece. They say the hazards of a long and dangerous navigation on seas unknown, forced the Greeks to apply with great attention to know the state of the heavens. There have been some who have even advanced, that, at the time of the expedition of the Argonauts, they had charged the famous Centaur Chiron with the reform of the ancient calendar of Greece which wanted exactness. Chiron, continue they, made a new calendar for the use of the Argonauts two years before their expedition. He formed even constellations in order to facilitate the voyage of these heroes. They have done more: they would assign in what points of the heavens Chiron had fixed the points of the equinoxes and of the solstices <sup>n</sup>.

An opinion so contrary to all that ancient history teaches us of the little knowledge the Greeks had of astronomy in the heroic times, has not failed to be advanced. We have demonstrated the falsity of it in a manner plain enough for its not being necessary to be insisted on anew. Yet, to the end that nothing may be omitted about a matter so interesting, I shall shew in few words the means by which they have combated a system so opposite to history and to reason. I shall only abridge what has already been said by two celebrated and well-known authors <sup>o</sup>, by adding only some reflections to their reasonings.

To the present time they had only regarded Chiron as a Thessalian very well versed in botany. In this respect they were conformable to the unanimous testimony of all antiquity. They had never spoke of Chiron but as a phy-

<sup>m</sup> Heroic. c. 10. p. 709.

<sup>n</sup> Newton, chron. of the Greeks, p. 85. 87.-89. & seq.

<sup>o</sup> Le P. Hardouin, dissert. sur la chron. de M. Newton. It is inserted in the memoirs of Trevoux, Septem. 1729, art. 37.; Bannier, explicat. des fables, t. 6, p. 342. & seq.

fician who knew better than all his cotemporaries the use of plants, especially of those which serve for the curing of wounds. But further : it is known that Jason was brought up by Chiron <sup>r</sup>. The Centaur, say the ancients, imparted to his disciples all his knowledge, and particularly that of medicine. They even add, that Chiron gave from this motive the name of Jason to that hero, instead of that of Diomede which he bore before <sup>s</sup>. We do not see that in these ancient traditions there is any mention made of astronomy. On what authority then is it that a modern author is supported to make Chiron an astronomer capable of making a calendar, and to fix the true state of the heavens, especially in the ages he mentions? They support themselves from a fragment of an unknown poet mentioned by Clemens Alexandrinus <sup>t</sup>. But further, what says this passage which makes the only basis of the system which we attack? Here it is, translated literally, that we may judge if such an authority is capable of destroying the unanimous suffrage of antiquity. “Hermippus of Beryte gives the  
 “ name of Sage to Chiron the Centaur; and he who has  
 “ written the Titanomachy reports, that he had first learned  
 “ the human race to live according to justice, by shewing  
 “ them the force of an oath, the joyful sacrifices, or thank-  
 “ givings, and the figures of the heavens <sup>u</sup>.”

Without speaking of the whimsical assortment of these three sorts of knowledge, without being willing to examine the authority of an unknown poet, and of whom the ancients have transmitted scarce any thing to us, could even what he has said make us conclude, that Chiron had been learned enough in astronomy to range all the stars under their different constellations? Do we see in the passage in question, that the Centaur had reformed the calendar in favour of the

<sup>r</sup> The scholiast of Pindar brings to prove it two verses of Hesiod. Nemea 3. ad vers. 92.

<sup>s</sup> Id. Pyth 4. ad vers. 211.

<sup>t</sup> This is what the scholiast of Apollonius says also, l. i. v. 554.

<sup>u</sup> Strom. l. i. p. 360. & 361.

<sup>v</sup> Σχήματα Ὀλύμπου. Clem. Alex. loco cit.



Argonauts, and lastly, that he had fixed the four points of the solstices and the equinoxes in the middle, that is to say, in the fifteenth degree of Cancer and of Capricorn, of the Ram and Libra?

What we can conclude, as appears to me, most naturally from this passage, is, that Chiron joined to the knowledge of botany, that sort of astronomy which concerns the heliacal setting and rising of some constellations, such as the Hyades, the Pleiades, and Orion, whose appearances furnish prognostics about the wind, the tempests, the rains, and other accidents hurtful to agriculture. He might know also, that the observation of the stars near the pole is useful in navigation. Perhaps he might have given some instructions to the Greeks about these objects. It was this point, without doubt, to which the celestial knowledge of Chiron was reduced. The state in which astronomy then was in Greece, does not permit us to doubt of it. These sciences, moreover, were limited enough, and did not put the person who possessed them, in a state of executing all that they would give the honour of to Chiron\*.

We must besides have paid very little attention to the manner in which the Greeks failed in the heroic times, to imagine, that the Argonauts had need of a calendar to mark exactly the rising, the setting, and the position of the stars. The Greeks then only cruised about, that is to say, sailed along the coasts. It was not necessary in the enterprise of the Argonauts to bear off to the open seas; their object was to make the passage from Thessaly to Colchis. Of what use then would the pretended calendar of Chiron have been to them? Shall we suppose, that these adventurers knew how to take the height of the stars, to know the place in which they were? What I shall say in the fol-

\* What Clemens Alexandrinus adds, of Hyppo, daughter of Chiron, whom Ovid, by the by, calls *Ocyroe*, confirms the explication which I have just given of the astronomical knowledge of Chiron. Hyppo, daughter of the Centaur, says Clement, having espoused Æolus, the same Ulysses came to shew to her husband the science of her father, that is to say, the contemplation of nature. Euripides, adds he, says of this Hyppo, that she knew and predicted divine things by the oracles and by the rising of the stars. *Strom.* l. i. p. 361.

lowing book, about the manœuvre of the Greeks in the heroic ages, will shew us how incapable they were of such an operation. We shall there see, that even in the times of Homer, that is to say, more than 300 years after the epoch which we are actually speaking of, the *Ursa Major* was the only guide which their pilots knew <sup>1</sup>.

These are, I think, proofs more than sufficient to destroy all the imaginations which they have propagated about the calendar made by Chiron. If it was necessary to add to this some reflections, the writings of Homer and Hesiod alone would furnish us with enow to overturn the system which we attack. Homer, who in his poems has had so many occasions to speak of the stars, and who in effect speaks of them very often, yet only names six constellations, *Ursa Major, Orion, Charles's Wain, the Hyades, the Pleiades, and the Great Dog*. It is a strong presumption, that, even in his time, the Greeks knew no more. In the description which he makes of the shield of Achilles, where he says, that Vulcan, among other subjects, had represented all the constellations with which heaven is crowned <sup>2</sup>, we do not see, that he places there a greater number.

If from Homer we pass to Hesiod, we shall see, that the number of the constellations known to the Greeks were not augmented in his time. This poet only mentions those which were spoken of by Homer. For Sirius and Arcturus <sup>3</sup>, of which the names are found in his writings, and of which we see no trace in those of Homer, are only two particular stars, which make a part, one of the Great Dog, and the other of Charles's Wain, Anacreon, although greatly posterior to Homer and Hesiod, only names one constellation more than these two poets <sup>4</sup>. Lastly, if we were to examine

<sup>1</sup> Book 4. chap. 4.

<sup>2</sup> 'Εν δὲ τὰ τετρα πάντα τὰ τ' ἑξανὸς ἐσφόνεσται. *Iliad*. l. 18. v. 485.

<sup>3</sup> *Opera*, v. 609. & 610.

The name Σειός given to the Great Dog, and that of Ἀρκτὺρος, given to Charles's Wain, make one suspect, that Hesiod is not quite as ancient as Homer.

<sup>4</sup> It is the Little Bear. We see, that it was known in his time, because he uses the plural ἀρκτὺρες instead of the singular ἀρκτὺς, which Homer and Hesiod always use.

It was Thales, as I shall shew in the third part, who learned the Greeks to know the Little Bear.



all the ancient Greek authors who have had occasion to speak of the constellations, we shall see, that they knew no others but the two Bears, Orion, Charles's Wain, and the Pleiades.

With regard to the zodiac, there is no mention made of it in any writers of antiquity. We do not find that term used but in authors much younger \*. We should not be surprised at this. It is certain, that, before Thales, the Greeks had no idea of astronomy considered as a science †. If we refer to Pliny, Anaximander had been the first who had made known to them the obliquity of the ecliptic ‡; a discovery which I think notwithstanding ought to be referred to Thales §. Pliny likewise tells us, that Cleostrates had been the first among the Greeks who was said to have made known the different signs which compose the circle of the sphere ¶; and from the manner in which Pliny expresses himself, we see, that he was only a little time after Anaximander †.

It appears to me then demonstrated, that in the ages which at present make our object, and even a long time after, the Greeks knew only such of the constellations whose observation is most necessary for agriculture. It had only been successively and by length of time, that they came to know and design the greatest part of the constellations, of which they would make us believe the pretended planisphere of Chiron was composed. We shall have occasion to convince them still more of this by the exposure which I shall make in the following volume of the state in which astronomy then was in Greece.

\* It is neither in Plato nor in Aristotle. And we find no more of it in the poem of the sphere which remains to us under the name of Empedocles. *Apud Fabric. Bibl. Graec. t. i. p. 477.*

† It is true, that in the treatise *de mundo*, inserted among the works of Aristotle, we see the word Ζώδια used to design the twelve signs; but all the critics agree at this time, that that treatise is not Aristotle's.

‡ Aratus is the most ancient author who has designed the zodiac by the term Ζώδιος Κωνελος. Aratus lived about the year 270 before Christ.

§ This is what we shall prove in the 3d part.

¶ L. 2. sect. 6.

§ See what is said on this subject, part 3.

¶ Plin. l. 2. sect. 6.

† Ibid.

Besides the names by which the Greeks have designed the constellations, it would suffice alone, in my opinion, to prove, that far from having been invented before the expedition of the Argonauts, they must be on the contrary posterior to that epoch. By the confession of the partisans of the system which we now attack, the greatest part of these names have a direct relation to that expedition<sup>d</sup>; in this point we are perfectly agreed. We only differ in this, that they suppose that the Greeks had formed their constellations before the voyage of the Argonauts. We pretend on the contrary, that they could only be since that event; and we prove it by the names of many of the constellations; such as that of the Dragon who guarded the golden fleece, of Medea's cup, of Castor and Pollux, and of Chiron himself. These names necessarily suppose the expedition of the Argonauts become already famous by its success.

With respect to the ship Argo, one of the principal constellations of the Greek planisphere, there is no appearance that it had been formed in Greece. They can only perceive one part of the stars which composed it. I shall be easily enough brought to believe that that constellation was the work of Greek astronomers established at Alexandria under the Ptolomeys. The name of *Canopus*, given to the most brilliant star of that constellation, appears to shew it positively enough. No one is ignorant that that word is purely Egyptian. It was the name of a god much celebrated and highly revered in Egypt<sup>e</sup>.

Lastly, is it well proved, that, in the times of which we are speaking, the Greeks designed even the constellations which they knew by the names which remain at this time in use in our astronomy? Do we not see on the contrary, that these names and these figures have suffered great variation among these people? The Great Bear, which afterwards they called *Helice*, is never called but *Arctos* by

<sup>d</sup> Newton's chron. of the Greeks, p. 87.

<sup>e</sup> See Plut. de Iside & Osiride, p. 359. E.; Voss. de idol. l. 1. c. 31.



Homer and Hesiod \*. The constellation of Charles's Wain, called by Homer *Bootes*, and *Arcturus* by Hesiod, has since been named *Arctophylax*, *the keeper of the bear* †. That of the Bull did not bear in the early times, among the Greeks, the name of that animal. They named that constellation originally ‡ the *guardian of the seasons* §.

But what has been the origin of the names and the figures that the Greeks have given anciently to constellations? To what cause are the changes they have made in them referred? This is what I shall treat of in a particular dissertation; I shall expose my conjectures about the origin of the names by which the first people have originally designed the constellations. I shall likewise give an account of the changes that these names have received among the Greeks, and of the motives which occasioned them †. I think for this reason I shall be dispensed with at present from entering into any detail on this object.

With respect to the planets, it is certain, that, at the times we now mention, the Greeks only knew Venus. This is in effect the only planet which is spoken of in the writers of great antiquity. But the discovery of Venus conducted the Greeks but very slowly to the knowledge of the other planets. This is a fact of which I shall give the proof in the succeeding volume. We shall see there, that to the time that Eudoxus and Plato returned from Egypt, the Greeks had no idea of the proper motion of the planets. It is easy to be convinced of this, when we reflect, that, at the time of Pythagoras, these people still believed that the Venus of the morning and the Venus of the night were two different planets. It was Pythagoras who drew them from so gross an error.

\* Besides the names of Ἄρκτος, of Ἀρκτάρα, and of Ἡλίχη, given by the Greeks to the Great Bear, we see that they likewise design it by that of Ἀγαννα. Hesychius in voce Ἀγαννα.

† See Hygin. poet. astron. l. 2. n. 2. p. 360. ‡ Le gardien des termes.

§ Sphaera Empedocl. v. 98. & seq. See Hygin. poet. astron. l. 2. where he has related all the different names given to the constellations by the Greeks.

† See at the end of this volume the first dissertation on the names of the constellations.

The facts which I have exposed appear to me sufficient to give an idea of the state of astronomy among the Greeks, in the heroic times. The inductions that may be drawn from them, if we may say so, present themselves.

### § III.

#### *Of geometry, mechanics, and geography.*

I Shall not stop to inquire what knowledge the Greeks might have had in geometry, in mechanics, and in geography, in the ages we are running over at present. The facts which ancient history, and particularly Homer, furnish for this epoch, prove that the Greeks then had some notions of the fundamental practices of these different sciences. I have shewn elsewhere, that, without such knowledge, no political society could subsist. But to determine precisely the state in which the mathematics were in Greece in the heroic ages, is impossible. Ancient authors have transmitted nothing particular nor precise about this object. I do not think then, that it ought to be attempted. I could only repeat most of the conjectures, which I have proposed in the first part of this work, on the origin and unfolding of the sciences. The reader need only recollect what I have there said, and he will see that almost all the reflections which I there made on the first people, may very well be applied to the Greeks of the heroic ages. I think, it will be better, to propose some conjectures on the causes which hindered for so long a time the progress of the sciences in Greece.

I have already said, and do not fear to repeat it, it is always surprising that the people with whom we cannot contest the glory of having carried the arts and sciences to the utmost perfection; that the people regarded at this time, and with reason, as our masters and models in all matters which raise and distinguish the human mind, had been so long a time bounded by notions extremely gross.

From



From the epoch of the establishment of the first colonies of Asia and Egypt in Greece, to the time of Thales, that is to say, for more than a thousand years, the Greeks made no progress in the sciences, which the people of the east had communicated to them. The continual intercourse which Greece kept up with Egypt and Phœnicia, one would think, would have contributed to kindle and develop the seeds of knowledge. Yet this commerce, with people so improved, did not produce the effect naturally to be expected from it. These first seeds were stifled. Let us endeavour to give a reason for this slowness and inactivity. By examining the state in which Greece was in the ages which at present fix our attention, and by reflecting on the events which happened there at that time, we shall see that it was not possible for the Greeks to perfect the first knowledge which they had received from Asia and Egypt.

I think, it is demonstrated by all the lights that history can afford us on the origin and progress of the sciences, that they did not begin to acquire any sort of perfection, but in pretty considerable states<sup>i</sup>. Greece in the heroic ages, and long afterwards, reckoned almost as many kingdoms as cities. We may easily comprehend how weak those sort of states must have been. What inhabitants they had, must have been solely taken up with the care of their own preservation. In such a situation the sciences could hardly make any progress.

Besides, a nation cannot cultivate the sciences, but in proportion to its enjoying tranquillity, which Greece was very far from enjoying the sweets of in the heroic times<sup>k</sup>. Exposed to the incursions and ravages of strangers, tormented with divisions and intestine wars, engaged to carry their arms into distant climes; lastly, exposed to the most fatal revolutions, how could these people give them-

<sup>i</sup> See part 1. book. 3. chap. 2. art 6.

See Thucyd. l. 1. n. 12.

selves up to that repose and study which the arts and sciences require? To prove this, let us give a short but exact picture of the different revolutions with which that part of Europe was then agitated.

We have just seen that they formerly had not in Greece any flourishing states; and of consequence they had no security, no tranquillity in that part of Europe. These countries then quite open, and without defence, were a prey to the avidity of the neighbouring people, who every instant came to attack and plunder them. In these unhappy times the inhabitants removed themselves, as far as possible, from the sea-coasts for fear of pirates<sup>1</sup>. They had scarce any more security in the inland parts. The people pillaged, stript, and mutually drove them from their habitations. Thus they were always obliged to be armed<sup>m</sup>: they could neither trade, nor even cultivate the earth<sup>n</sup>.

The different colonies which came from Asia and Egypt to settle themselves in Greece about the beginning of the ages we are now running over, drew them from the horrors to which they were then a prey. The conductors of these new migrations communicated to the Greeks the sciences which these people had always wanted, or which at least they absolutely neglected to cultivate. They built cities in advantageous places, and at the same time commodious for traffic. They also found out the means of inhabiting the coasts with some security. The sea-ports, becoming rich, were augmented by little and little: the most powerful built walls, and secured themselves from incursions<sup>o</sup>. It was thus that Greece began insensibly to instruct and polish itself.

But the spirit of discord, almost at the same time, seized on the different states, which then formed themselves in each district. Without particularising the number of petty intestine hostilities, the two wars of Thebes, the last of which ended with the ruin of that city, of themselves put

<sup>1</sup> Thucyd. l. i. n. 7.; Philocor. *apud* Strab. l. 9. p. 109.

<sup>m</sup> Thucyd. l. i. n. 5. 6. 7. 12. & 17.

<sup>n</sup> See *infra*, book 4. chap. 4.

<sup>o</sup> Thucyd. l. i. n. 7. & 8.



all Greece in combustion. The expedition of the Argonauts, which afterwards employed the choice and flower of the nation in a distant country, the league formed a little afterwards for the destruction of Troy, lastly, the revolution which the return of the Heraclidæ caused in Peloponnesus, did not give the Greeks time to breathe. The war of Troy had occasioned the greatest disorders in Greece<sup>p</sup>; but the revolution which rendered the Heraclidæ masters of Peloponnesus, had still more fatal consequences. This last event replunged Greece nearly into the same state of barbarism, from which the colonies from Asia and Egypt had drawn them.

The reader may call to mind what I have already said in the first book, of the efforts which the descendants of Hercules made to enter into the domain of their ancestors, 80 years after the taking of Troy<sup>q</sup>. After various attempts, they made themselves masters of Peloponnesus. The success of their enterprise threw Greece into the greatest trouble and confusion. Almost all the ancient inhabitants were driven from their first settlements. The commotion was general. The bad effects which this event produced were not confined to these calamities. The troops which the descendants of Hercules employed, were for the most part composed of Dorians of Thessaly<sup>r</sup>. These gross and savage people threw Greece into a state of ignorance and barbarism nearly equal to that into which the Normans threw France about the end of the ninth century. These Dorians exterminated or drove out almost all the inhabitants of Peloponnesus, and of one part of Attica. They destroyed most of the ancient cities, and founded new ones; the citizens of which, ignorant of letters, and neglecting the sciences, only applied themselves to agriculture and the military art. Those of the ancient inhabitants who remained in these countries, were reduced to slavery. The others, forced to look for new habitations, settled themselves

<sup>p</sup> See *infra*, book 5. chap. 3.

<sup>q</sup> P. 45. & 46.

<sup>r</sup> Thucyd. l. 1. n. 12. ; Paus. l. 5. c. 3. & 4.

in the isles, and on the coasts of Asia Minor. The business of their settlement, and the care of defending themselves against the people of those countries, hindered them for some time of thinking to cultivate letters. Yet they did not entirely neglect them. The fertility of the countries which they inhabited, soon procured them that ease and repose so favourable to arts and sciences, that there came from those countries the first authors, who deserved, in every respect, to descend to posterity; authors whose works we cannot at this time too much admire \*. It was from these colonies that letters repassed into European Greece, and there began to banish barbarism, which nevertheless supported itself there a long time, and reigned to the age of those celebrated men, whom the Greeks honoured with the name of Sages, that is to say, to the times of Solon and Pisistratus †.

\* Homer, Herodotus, &c.

† See Les memoires de l'academie des inscriptions, tom. 7. memoires, p. 331. & 332.



## B O O K IV.

*Commerce and Navigation.*

**I**N treating of the origin of commerce and navigation in the first part of this work, it was necessary to restrain ourselves to general views. An effect of the obscurity which reigns over the history of the ages which then fixed our attention; those at present in question will procure us more satisfaction. One may enter into some details on the state of commerce and navigation among many nations. In the account I am going to give, I shall observe the chronological order and the succession of facts, as much as possible; it is for that reason, I shall first speak of the Egyptians. The maritime enterprises of Sesostris are the most ancient we have any knowledge of in the times of which we now undertake to give the picture.

## C H A P. I.

*Of the Egyptians.*

**I**Said in the preceding volume, that the first inhabitants of Egypt had little inclination for commerce; I shewed also, that they must have addicted themselves to navigation only very lately. Policy and superstition opposed them<sup>a</sup>. Sesostris, who ascended the throne about 1659 years before Christ<sup>b</sup>, silenced these motives, and banished these prejudices. This prince, whose ambition knew no bounds, had proposed the conquest of the universe<sup>c</sup>. But it was difficult for him to undertake so vast a project with-

<sup>a</sup> See book 4. chap. 2.<sup>b</sup> *Supra*, book 1. chap. 3. p. 11.<sup>c</sup> Diod. l. 1. p. 63.

out a fleet. Rejecting therefore the principles which the kings his predecessors had followed, with respect to the marine, he equipped a very large fleet; it consisted, they say, of 400 sail <sup>a</sup>. If we believe the report of the authors of antiquity, these were the first ships of war that had been seen <sup>c</sup>. Before the Egyptians had only had weak barks, or even rafts, which served them to coast about the borders of the Arabian gulf <sup>f</sup>. It was likewise on this sea that Sesostris made his fleet be built <sup>g</sup>. I am persuaded, though the ancients do not say so, that to effect this he had recourse to Phœnician workmen. It is equally probable, that the greatest part of the tackling which rigged these vessels, was got from the same nation.

By means of his fleet, Sesostris made himself master of the greatest part of the maritime provinces, and the coasts of the Indian sea <sup>h</sup>. We do not see that this prince is said to have had ships on the Mediterranean. Diodorus says, it is true, that Sesostris conquered the Cyclades <sup>i</sup>. But it is very probable that this expression should be understood of some isles of the Indian sea, and not of those which the ancients knew under that name in the Mediterranean. The manner alone in which Diodorus expresses himself, is enough to shew it <sup>\*</sup>; especially, as neither he, nor Herodotus, say in any other place, that Sesostris had a fleet in the Mediterranean.

The reign of this prince was a brilliant, but short epoch, for the marine among the Egyptians. In effect, it does not appear that the successors of Sesostris ever entered into his views, or continued his projects. The writers of antiquity do not mention any maritime enterprise undertaken in Egypt, in the ages we are at present running o-

<sup>a</sup> Id. *ibid.* p. 64.

<sup>c</sup> Herod. l. 2. n. 102.; Diod. l. 1. p. 64.

<sup>f</sup> Plin. l. 7. sect. 57. p. 417.

<sup>g</sup> Herod. l. 2. n. 102.; Diod. l. 1. p. 64.

<sup>h</sup> Herod. & Diod. *locis cit.*

These authors only speak of the Red sea; but it is known, that under that denomination, the ancients included all the space of sea which washes Asia to the south.

<sup>i</sup> L. 1. p. 65.

<sup>\*</sup> The name of *Cyclades* is a generic term, which may agree with many collections of isles.



ver. The ancient manner of thinking, with respect to commerce and navigation, resumed its empire. Entirely taken up with the means of rendering the inland commerce of his kingdom very flourishing, Sesostris wanted to have an easy communication between the different provinces of Egypt. With this view, he had caused many canals to be cut, which came from the Nile<sup>1</sup>, and communicated with each other. By thus facilitating the transport of commodities, he had taken care that plenty should spread itself over all his kingdom. These works so proper to encourage commerce, yet could not inspire the Egyptians with a taste for it; they did not try to extend their commerce to any distance, nor to make with foreigners establishments capable of supporting it; for I do not think one can refer to this end the different colonies which Cecrops and Danaus conducted from Egypt into Greece, about an hundred years after Sesostris. We know that the chiefs of these new migrations kept up no relation with Egypt<sup>m</sup>. They ought then only to be looked upon as adventurers, who, discontented with their lot, put themselves at the head of a troop of vagabonds to go and seek their fortune in a foreign land. I also think that it had been with these second colonies as with the first, that is to say, that they made their passage from Egypt into Greece in Phœnician bottoms<sup>n</sup>.

The Egyptians continued to give very little access to strangers. The ports of Egypt, except that of Naucratis, remained always shut. They were not opened till under the reign of Psammetichus<sup>o</sup>, that is to say, more than 1000 years after Sesostris.

Although ancient Egypt was little given to commerce, the people notwithstanding enjoyed immense riches. They owed them to the exploits and the conquests of their first sovereigns. These princes had over-run and subjected a great part of Asia<sup>p</sup>. These wars were not unprofitable;

<sup>1</sup> Herod. l. 2. n. 108. Diod. l. 1. p. 66.

<sup>m</sup> See Herod. l. 2. n. 154.

<sup>n</sup> See Marsh. p. 109. & 110.

<sup>o</sup> Diod. l. 1. p. 78.

<sup>p</sup> Id. *ibid.* p. 23. 24. & 56.

Sesostris got by his expeditions an immense booty <sup>a</sup>. Besides, he imposed considerable tributes of every sort on the nations he had conquered <sup>r</sup>. They were even obliged to bring them to Egypt <sup>r</sup>. The successors of this prince imitated his example. Ancient inscriptions, which still subsisted in the times of Strabo and Tacitus, marked the weight of gold and of silver, the number of arms and of horses, the quantity of ivory and perfumes, of corn and other commodities that each nation was to pay <sup>r</sup>. These tributes, by the report of Tacitus, equalled those which in his time the Parthians and even the Romans could demand from the people under their dominion <sup>u</sup>.

It is not then surprising, that, in spite of their disinclination to commerce, ancient Egypt is said to have enjoyed great opulence. By the conquests of her first monarchs, she was become the centre or boundary of a great part of the riches of Asia. The superb monuments which these princes caused to be erected, the immense works which they undertook, spread money over the nation, and circulated their treasures. Each private person profited by it, and might that way alone enrich himself readily enough. Besides, they were very luxurious in Egypt in early times. One may judge of this by the quantity of gold and silver vases, the precious habits, &c. which the Israelites brought from that country when they came out of it <sup>z</sup>.

## C H A P. II.

*Of the Phœnicians.*

**I** Have reserved for the ages which we are running over at present, many details relating to the commerce and navigation of the Phœnicians. It is in effect to this epoch, that most of the maritime enterprizes which have rendered

<sup>a</sup> Ibid. p. 65.<sup>r</sup> Diod. l. 1. p. 64. & 65.<sup>r</sup> Ibid. p. 65.<sup>t</sup> Strabo, l. 17. p. 1171.; Tacit. annal. l. 2. c. 60.<sup>u</sup> Ibid.<sup>z</sup> Exod. c. 12. v. 35.



these people so famous in antiquity should be referred. Their history furnishes a very convincing proof what industry can do, and shews very evidently to what pitch commerce is capable of raising a nation which applies to it with ardor.

When we speak of the Phœnicians, we must distinguish the times with accuracy. These people possessed originally a large extent of countries, comprised under the name of the land of *Canaan*. They lost the greatest part of it by the conquests of the Israelites under Joshua. The lands which fell in the division to the tribe of Asher, extended to Sidon<sup>y</sup>. That city notwithstanding was not subdued. The inhabitants preserved their lives and liberty<sup>z</sup>. It even appears, that they were not disturbed, but were permitted to enjoy great tranquillity<sup>a</sup>. The Sidonians made use of this to continue their commerce, and laboured to extend it more and more. They even found themselves soon able enough to oppress the Israelites in their turn. This event happened in the times of the judges<sup>b</sup>. We are ignorant of the circumstances, which besides are foreign to our object. Let us return to the commerce of the Sidonians.

If the conquests of Joshua took from the Phœnicians a great part of their dominion, they were well paid by the consequences of that event. To support and maintain their commerce with advantage, these people had occasion to establish warehouses in the different countries where business might draw them. They were not able to form lasting settlements, but by the aid of a certain number of colonies. The revolution occasioned in the countries of Canaan by the irruption of the Hebrew people, enabled the Sidonians to send colonies where-ever they thought proper. In effect, the greatest part of the ancient inhabitants of Palestine seeing themselves threatened with entire destruction, had recourse to flight to save themselves. Sidon offered them an asylum: they cast themselves upon them; but the territory of that city was not sufficient to support this multitude

<sup>y</sup> Josh. c. 10. v. 28.

<sup>a</sup> Ibid. c. 18, v. 7.

<sup>z</sup> Judges c. 3. v. 3.

<sup>b</sup> Ibid. c. 10. v. 12.

of refugees ; it happened that they were still under a necessity of finding new settlements \*. Sidon lent them ships, and made good use of these new inhabitants to extend their trade and form settlements. From hence, that great number of colonies which went then from Phœnicia, to spread themselves in all the countries of Africa and of Europe.

I shall not undertake to particularise exactly all the places where the Phœnicians came to introduce themselves. The reader may consult the authors who have discussed this matter with the extent it requires, and the exactness it merits \*. I shall confine myself to general facts, which may enable the reader to judge of the nature and of the extent of the commerce which that nation carried on in the ages we are speaking of at present. I shall also observe, that then there was no mention made of Tyre, not even of the ancient Tyre which was taken by Nabuchodonosor. That city was not built till about 40 years after the taking of Troy †. It owed its origin to a colony of Sidonians ‡. Their beginnings, like all those new settlements, were very weak. Homer, who speaks so often of Sidon, does not once name Tyre. That city was not distinguished enough in his time, to deserve a place in history.

To return to our subject, the first settlements of the Phœnicians were in the isles of Cyprus and Rhodes. They passed successively into Greece, into Sicily and Sardinia. Afterwards they transported themselves among the Gauls, and always advancing, they discovered the southern part of Spain. These people were incontestably the first navigators who are said to have penetrated into that extremity of Europe. It is even in the Phœnician language, that we must search for the etymology of the name which that kingdom still bears at this day †.

Till

\* See Procop. de bello Vandal. l. 2. c. 10. \* Bochart, Huet, Newton, &c.

† Marsh. p. 295.

‡ See part 1. b. 4. c. 2. art. 1.

† They pretend that Spain was formerly filled with so prodigious a quantity of rabbits, that these animals, by means of digging the earth, almost overturned the houses. Varro, *de re rustica*, l. 3. c. 13. ; Strabo, l. 3. p. 213. 214. & 256. ; Plin. l. 8. sect. 43. & 83.

**ISW** *Sayhan*, in Hebrew, little different from the Phœnician, signifies a rabbit.



Till this time the Phœnicians, like all the people of antiquity, had not gone out of the Mediterranean: their maritime expeditions were confined to the compass of that sea; and the south of Spain was the bounds of their voyages. But that restless nation, covetous of gain, soon undertook the greatest enterprizes. By passing the southern point of Spain, the Phœnician sailors had perceived, that the Mediterranean communicated by a pretty narrow canal with another sea. The dangers which presented themselves of going over this dangerous passage, and to engage themselves in unknown latitudes, had always frightened the Phœnician pilots. Yet encouraged by perpetual successes, they durst at last venture themselves. Thus about 1250 years before Christ, the Phœnician ships were seen coming out of the Mediterranean, and passing the Straits, entered on the ocean <sup>f</sup>. Success crowned the boldness of this enterprize. They landed on the western coast of Spain. This first voyage was followed by many others. The Phœnicians soon sent colonies into these countries, founded cities there, and formed lasting settlements.

Their principal attention was to that isle, known at present by the name of Cadiz <sup>g</sup>. They were not long of discovering the importance and advantage of that port. It was a convenient storehouse to lay up the rich effects which they brought from Asia and the neighbouring countries. They could likewise collect there those they received from Betique and other countries of Spain. To secure the possession of that isle, the Phœnicians built a city there <sup>h</sup>, to which they gave a name declarative of the utility it was to them, and the use they made of it. They named it *Gadir*, a word which means *refuge*, *inclosure* <sup>i</sup>.

The advantage which the Phœnicians had at first by

SPANIJA in the same language, from whence the Romans have made *Hispania*, and we Spain, as much as to say *full of rabbits*. Bochart in Phaleg. l. 3. c. 7. p. 190.

<sup>f</sup> See Diod. l. 5. p. 345.; Bochart in Phaleg. l. 3. c. 7. p. 189.; In Canaan, l. 1. c. 34. p. 662.

<sup>g</sup> It is situated near the western coast of Andalusia.

<sup>h</sup> Diod. l. 5. p. 345.

<sup>i</sup> Bochart in Canaan, l. 1. c. 34. p. 673.

trading with Spain, was very considerable. The ancient inhabitants of that rich country were very destitute of arts and sciences. They had gold and silver in abundance, but they did not know the use of them : ignorant of the value of those metals, they employed them for the most vile uses <sup>k</sup>. The Phœnicians knew very well how to avail themselves of that ignorance. In exchange for oil and some trifles which they gave to these people; they received of them so prodigious a quantity of silver; that their ships could not transport the treasure. They were obliged to take out all the lead with which their anchors were loaded, and to put there the spare silver <sup>l</sup>. The history of the first voyages which the Europeans made to America, gives us an exact image of these ancient events.

The riches which the Phœnicians drew from Spain, were not confined to gold and silver; without speaking of wax; honey, pitch, vermilion, &c. iron, lead, copper, and above all tin, were the most lucrative objects <sup>m</sup>. All that was formerly used of this last metal passed through the hands of the Phœnicians. This short exposure suffices to shew the immense profits the return of ships loaded with such cargoes would produce; for it is certain, that Phœnicia kept up a correspondence with all its colonies except Egypt, which appears to have had entirely opposite principles.

Spain was not the only country beyond the pillars of Hercules, where the Phœnicians had penetrated. Being familiarised with the navigation of the ocean, they extended themselves to the left of the straits of Cadiz, as far as to the right. Strabo assures us, that these people had gone over a part of the western coast of Africa a little time after the war of Troy. According to this author, they had there formed some settlements and built some cities <sup>n</sup>.

I dare not place in the same ages, their passage into Eng-

<sup>k</sup> Strabo, l. 3. p. 224.

<sup>l</sup> Arist. de mirab. auscult. t. 1. p. 1165.; Diod. l. 5. p. 358.

<sup>m</sup> Diod. l. 5. p. 261.; P. Mel. l. 2. c. 6.; Strabo, l. 3. p. 212. 213. & 219.; Plin. l. 3. sect. 4. p. 145. l. 4. sect. 34. p. 228. l. 34. sect. 47.

<sup>n</sup> L. 1. p. 83. l. 3. p. 224.



land. We might perhaps determine it by a reflection which the reading of the writers of antiquity furnishes us with. They were persuaded, that all the tin that was consumed in the known world, came from the isles of Cassiterides; and there is no doubt, that these isles were the Sorlingues, and a part of Cornwall \*. We see by the books of Moses, that, in his time, tin was known in Palestine †. Homer teaches us also, that they made use of this metal in the heroic ages ‡. This poet, we know, never gives to the ages he speaks of but only such knowledge as he knew belonged to them. It should follow then, that the Phœnicians had traded in England, in very remote antiquity. Yet that is not my sentiment.

In acknowledging that they used tin very anciently in many countries of Asia, yet I do not think, that they got it from England. There is too great a distance between that isle and Spain, to presume, that the Phœnicians had attempted that passage in the ages we are at present speaking of. Such a passage could not be made without quitting the coasts too much. They must abandon themselves entirely to the open sea. It may be said, that it was from the coast of Gaul opposite to England, that the Phœnicians went into that country; but that opinion would suppose, that, in the most early times, these people had run over all the coasts of Spain, and almost all those of Gaul; a sentiment that appears to me improbable. I think then, that, in these ancient times, it was Spain and Portugal which furnished the Phœnicians with the tin with which these people traded so advantageously with other nations. This metal was formerly very plentiful in these two countries †.

From the enumeration I have just made of the countries the Phœnicians traded to in the ages we are at present speaking of, we may plainly see, what then was the greatness and extent of their commerce. We may judge of it

\* See Bochart, Can. l. 1. c. 39. p. 722. & 724.

† Num. c. 31. v. 22.

‡ Iliad. l. 11. v. 25. & 34. &c.

† Diod. l. 5. p. 361.; Strabo, l. 3. p. 219.; Plin. l. 4. sect. 34. p. 228. l. 24. sect. 47.; Stephan. de urbib. voce Ταγρηστος, p. 639.

by the quantity of gold and silver the Israelites found in Palestine, and by the luxury and magnificence which then reigned in these countries. The sovereigns were there clothed in purple, the people wore gold ear-rings and fine necklaces. Even their camels were adorned with studs, chains, and plates of gold <sup>r</sup>. Those facts are very sufficient proofs of the riches the Phœnicians had been used to in Palestine. Their commerce was so much the more advantageous, as in these ancient times the different countries of our world had scarce any relation with each other. By this means, the Phœnicians became commissioners and factors to all the known world. We see, that, at the time of the war of Troy, the Sidonians were able to furnish other nations with every thing that could contribute to luxury and magnificence <sup>t</sup>. Such was the source of the immense riches that the Phœnicians had amassed. All trade being in their hands, these intelligent people only let people have a glimpse of what they thought proper. They concealed with care the places to which they sailed, and tried by all sorts of means to take the knowledge of it from other nations <sup>u</sup>. The obscurity which they affected to throw over their trade, made them be taxed with cunning and fraud <sup>x</sup>. Let us at present enter into some examination of the manner in which the Phœnician ships were constructed. We will also say a word or two of their progress in the art of navigation.

Originally they had only rafts, pirogues or simple boats. They used oars to conduct these weak and light vessels. As navigation extended itself and became more frequent, they perfected the construction of ships, they made them of a much larger capacity. There must then have been more hands and more art to work them. The industry of man commonly increases in proportion to his wants. They were not long of discovering the use they might draw from the wind to hasten and facilitate the course of a ship; and they

<sup>r</sup> Judg. c. 8. v. 21. &c.

<sup>t</sup> Hom. Iliad. l. 6. v. 289. 290. l. 23. v. 743.; Odyss. l. 4. v. 154. l. 15. v. 114.

<sup>u</sup> Strabo, l. 3. p. 265.

<sup>x</sup> Odyss. l. 14. v. 288. &c. l. 15. v. 414. &c.



found out the art of aiding it by means of masts and sails. There reigns a very great obscurity about the time when these accessory parts of a ship were invented. I think the Phœnicians were the first who made use of the wind. I even think this manner of sailing pretty ancient among these people. For how could they have undertaken such long and difficult navigations as I have just mentioned with ships without sails? Like our galleys, these vessels went also with oars. They used sails when the weather was favourable, and had recourse to oars during calms, or when the wind was contrary.

I said in the first part of this work, that many people were given to navigation very anciently. They could not long traverse the seas, without having disputes and contests rise up among them. Covetousness, the pride of being at the head, and jealousy, must make them then think of the means of attacking and defending themselves with success on the seas. From thence they invented a sort of ships proper for that use. We have seen before, that Sesostris passed in antiquity for the first who had shewn ships of war<sup>y</sup>. But I think we should rather give that honour to the Phœnicians<sup>z</sup>. Be that as it will, we know, that, in the ages of which we now speak, they distinguished two sorts of vessels, one destined for commerce, and the other for naval expeditions. The fabric of these two sorts of ships was different. The Phœnician ships of war, which I presume served as a model to other nations, were long and pointed. They called them *Arco*<sup>a</sup>; this is all that can be said. Their merchant-ships were called *Gaulus* and *Gauloi*; they were on the contrary of a round form<sup>b</sup>, or, to speak more properly, almost round\*. For I cannot believe, that, by the expression *round* vessels, the ancients meant a perfect roundness. How could such ships keep

<sup>y</sup> *Supra*, chap. 1. p. 291.    <sup>z</sup> See *ibid*.

<sup>a</sup> Bochart, *Canaan*, l. 2. c. 11. p. 819. & 820.

<sup>b</sup> Bochart, *ib*.

\* This is the idea Festus gives when speaking of the ships called *Gaulus*; he defines them, *Gaulus, genus navigii pene rotundum, voce Gaulus*, p. 162.

their way? They would at most be only capable of sailing on rivers. I think then the *Gaulus* had their holds very large to be able to carry more goods. They called them *round* in opposition to ships of war which were extremely pointed.

These sorts of vessels which had their hulk large and the keel flat<sup>c</sup>, were subject to great inconveniencies, and must have caused great obstacles in sailing. A ship in effect of a round built and a large and flat bottom, would only draw very little water\*. From hence it would yield to all winds, because it would want a point of support. Having a few feet in the water, she would slide over the surface of the waves, without being able to defend herself or resist them. She could not then hold her course without having the wind in the poop; and would not be able to carry much sail†. The run of the Phœnician merchant-ships must have been, in consequence of these principles, very slow and very uncertain. Such sort of vessels must necessarily take up a great deal of time in the least voyages. It is not difficult to shew why the first navigators had studied to give a round form to their merchant-ships. That sort of construction agreed perfectly with the state of navigation in these remote times. At that time they never quitted the coasts but from necessity. The ancients, of consequence,

<sup>c</sup> Tacit. annal. l. 2. c. 6.

\* They say of a ship, that she draws so many feet of water, to express how many feet she is sunk in the sea.

† A ship of a long make, and that enters deeply into the water, keeps her course in almost all winds. By presenting her side, she makes from the large sheet of water against which she presses, a support sufficient to resist the contrary motion which the wind may impress on her sails. A king's ship, for example, of more than one hundred and fifty feet long, and that draws more than twenty feet of water. What a force must it not be for such a ship to be able to displace sidewise the enormous mass of water which resists it in a direction perpendicular to its length? It follows then from the effort of the wind, combined with the resistance of the water, that such a vessel will escape by the diagonal. Thus the wind large, or on the quarter, is at this time reckoned the best wind to make a voyage. The wind in the poop is not so favourable, because in that case there is only a part of the sails in use; the wind cannot act upon them all at one time.

could



could not give much depth to their vessels <sup>d</sup>; they endeavoured then to gain in the breadth what they had lost in the depth.

I do not think that these ships had a prow and a poop marked and distinct. The form of them might be the same <sup>e</sup>. They might, as appears to me, steer them both ways. I judge thus from their fabric, which was very different from our vessels. We have only one rudder fixed to the poop, but the ancients had to three or four <sup>f</sup>; that is to say, properly speaking, they had none; and what they used for it, was, as I presume, a sort of very large and very long oar <sup>\*</sup>. These ships might, by this means, be worked any way they pleased. Some Indian nations still use at this time ships which equally sail by the prow or by the poop <sup>g</sup>. Perhaps also the rudders of the ancients, instead of being fixed to the poop or the prow, were placed on the sides <sup>h</sup>, as they are seen on the *praos*, or pirogues of Bantam <sup>i</sup>.

The methods and practices the Phœnicians made use of to direct their navigations, are not known to us. History has transmitted nothing to us on a subject so curious and interesting. I shall not therefore stop to make conjectures founded on no facts. I only think to be able to explain why these people had undertaken great enterprises before any other nation of antiquity.

In treating of the means used by the first navigators to know their route, and to be certain after a storm how far they had been thrown out of their way, I said that Urfa Major had been probably the first guide they had fol-

<sup>d</sup> See Tacit. annal l. 2. c. 6.

<sup>e</sup> See Hygin. fab. 168. & 227.; Suid. *in voce* Ἀμφιπερύναις, t. i. p. 153. and *voce* Δίγκοτα, p. 589.; Scheffer. de milit. nav. veter. l. 2. c. 5. p. 147.

<sup>f</sup> Athen. l. 11. c. 12. p. 489.; Hygin. fab. 14. p. 50.; Scheffer *loco cit.* p. 146.

<sup>\*</sup> There are seen pretty large and strong boats on the Seine which have no other rudder.

<sup>g</sup> Rec. des voyages qui ont servi à l'établissement de la compagnie des Indes Holland. t. 4. p. 594.

<sup>h</sup> See Tacit. annal. l. 2. c. 6.

<sup>i</sup> Voyages de la compagnie des Indes Holland. t. i. p. 367.

lowed. I have shewn at the same time to what inconveniencies that choice exposed them<sup>k</sup>. The Phœnicians were the first who perceived it. They must therefore have searched in the heavens some point that would serve to direct the course of a ship in a more precise and certain manner than *Urfa Major*. They must have perceived, that above that constellation there was one much less, almost the same figure, but in a contrary situation, and being much nearer the pole, never set for the seas they then frequented. They knew this constellation by the name of *Urfa Minor*. The Phœnicians chose a star to be their guide and their point of knowledge<sup>l</sup>. I say a star in general; for in the times we are treating of, that is to say, about 1250 years before Christ, the star which is at the extremity of the tail of *Urfa Minor*, and by which we regulate at this time, could not shew the pole with precision. It was then too distant<sup>m</sup>. I believe that the Phœnicians made use, in the ages I speak of, of the bright star placed in the shoulder of *Urfa Minor*, which is of the second magnitude, and very remarkable. It was this discovery which probably encouraged the Phœnicians early to undertake great voyages, and to expose themselves on unknown seas. Their skill in maritime affairs and in business was greatly celebrated in the times of the war of Troy<sup>n</sup>.

## C H A P. III.

*Of the Phrygians, Lydians, Trojans, &c.*

**H**ISTORY has not handed down to us the same lights on the commerce of the other people of Asia, as on that of the Phœnicians. Yet it cannot be doubted, that trade was very flourishing, in many countries in that vast part

<sup>k</sup> See part 1. book, 4. chap. 2.

<sup>l</sup> See Bochart, Can. l. 1. c. 8. p. 410.; Palmer. exercitat. p. 445.

<sup>m</sup> Acad. des sciences, année 1733, mémoires, p. 440.

<sup>n</sup> Odyss. l. 15. v. 414. & 415.



of the world, and particularly in Asia Minor, in the ages we are speaking of at present. It is true, as I have just said, that we are ignorant of the details and particulars. We can only judge from certain tracts dispersed in the writings of the historians of antiquity.

What fable, for example, declares of Midas, King of Great Phrygia, that he turned into gold every thing he touched, must be understood, I think, of the skill of that prince to improve the productions of his country, and of his attention to make trade flourish there. Such was the source of the riches of this prince, so boasted of in antiquity \*. May not one say, by a metaphor, which is not too far fetched, that the effect of trade is to turn all into gold? This conjecture appears to me so much the more probable, as Midas was particularly attached to the perfecting navigation. They say he had invented the anchor which they used to stop their ships †. We also see that the Phrygians were looked upon, for some time, as masters of the sea ‡. None but trading nations could pretend to that sort of superiority.

The Phrygians also passed in antiquity for the inventors of waggons with four wheels †, so commodious for carrying merchandise by land. I had forgot to mention, that an ancient tradition attributed to Demodice, wife of Midas, the invention of coining money ‡. We must then conclude, from all these facts, that the people of Great Phrygia were then much given to trade.

We might say as much of those who inhabited the Lesser Phrygia. Trade must have been very flourishing in that country. Tantalus, who reigned there about the middle of the ages which now employ us, had been equally renowned as well for his riches as for his sordid avarice §. Master of a great treasure, he durst not touch it. His son

\* See Plin. l. 33. sect. 15. p. 613. & 614.

† Pausan. l. 1. c. 4. p. 12.

‡ Syncell. p. 181.

§ Plin. l. 7. sect. 57. p. 415.

¶ Pollux. l. 7. c. 6. § 83. p. 1063. ; Heraclid. in polit. verbo Φρυγίων.

‡ See Mezeriac. ad epist. Ovid. t. 2. p. 329.

Pelops made a better use of it. Obligated to renounce the throne of his father, and to fly his country, he went into Greece when Acrisius reigned in Argos. Pelops had brought great riches from Asia. That prince knew to disperse them properly. They owed to him a degree of power that soon raised them above all the sovereigns of Greece <sup>c</sup>, though at that time very poor and very indigent, trade being still unknown in that part of Europe.

I have nothing particular to say at this time on the commerce of the Lydians. We have seen in the first part of this work, that these people were addicted to trade in very early times <sup>d</sup>. They continued it with so much success, that Croesus, their last sovereign, was reputed the richest monarch in the universe.

It is also certain, that trade must have been in great esteem in the kingdom of Troy. The riches of Priam do not permit us to doubt of it <sup>e</sup>. The states of that prince were situated very advantageously. They were extended over all the western coast of the Hellespont: the isles of Tenedos and of Lesbos were even comprehended in them <sup>f</sup>. The Trojans had known to profit by that happy situation, to addict themselves to commerce and navigation <sup>g</sup>. They had good ports <sup>h</sup> and skilful builders of ships <sup>i</sup>. Æneas and Antenor were able, even after the ruin of their country, to equip each a fleet, considerable enough to look out for, and form new settlements <sup>j</sup>.

I know not whether we must put the Carians in the number of trading nations. The origin of these people is not otherwise known. It is only known, that they pretend to have inhabited, time immemorial, that province of Asia Minor, which, from their name, is called Caria <sup>k</sup>. It appears, that the Carians frequented the sea very early. But it was not with a view to trade. They only did it to rob and pil-

<sup>c</sup> Thucyd. l. 1. p. 6. & 7.; Plut. *in* Thes. p. 2. A.    <sup>d</sup> Book 4. c. 4. p. 269. & 273.    <sup>e</sup> See Hom. *Iliad*. l. 24. v. 514. &c.

<sup>f</sup> Hom. *ibid.* &c.; Virgil. *Æneid*. l. 2. v. 21. &c.

<sup>g</sup> See Plin. l. 7. sect. 57. p. 417.    <sup>h</sup> Virgil. *Æneid*. l. 3. v. 5. & 6.

<sup>i</sup> Hom. *Iliad*. l. 5. v. 60. &c.    <sup>j</sup> Virgil. *Æneid*. l. 1. v. 242. l. 3. v. 4. &c.

<sup>k</sup> See acad. des inscript. t. 9. mem. p. 113.



lage the coasts. This at least is the idea that ancient authors give us<sup>e</sup>. We see in effect, that under the reign of Cecrops the Carians came to make descents, and to ravage the coast of Attica<sup>f</sup>. They infested by their piracies the Ægean sea before the time of Minos<sup>g</sup>. They were even settled in the Cyclades. If we believe Thucydides, Minos came there to drive them out<sup>h</sup>. I say, if we believe Thucydides, for Herodotus does not agree with that author about the manner in which Minos treated the Carians. He pretends, that the King of Crete did not drive them from the Cyclades; they were permitted to stay there, on condition, that they joined a number of their vessels to the fleets which that prince should think proper to equip<sup>i</sup>. Though it be thus in these two narrations, it always results, that the Carians were addicted to navigation in very early antiquity; but it is not seen that they applied equally to commerce.

## C H A P. IV.

### *Of the Greeks.*

**I**F the reader will call to mind what I have said in the preceding books of the ancient state of Greece<sup>k</sup>, he will easily perceive, that commerce must have been unknown there for many ages. The first inhabitants of that part of Europe had no connection nor communication, and by consequence no traffic nor trade. Their best historians agree in this<sup>l</sup>. Nearly about the time of Abraham, some colonies going out of Egypt passed into Greece. These new migrations civilized the inhabitants a little, and communicated to them some tinctures of the arts and sciences; but these first seeds were soon choaked<sup>m</sup>. Lastly, they saw successively,

<sup>e</sup> See Thucyd. l. i. p. 6.

<sup>f</sup> Philocor. *apud* Strab. l. 9. p. 609.

<sup>g</sup> Thucyd. l. i. p. 4.

<sup>h</sup> Ibid. <sup>i</sup> L. i. n. 171.

<sup>k</sup> See part 1. book 1. art. 5.; part 2. book 1. c. 4. & book 2. sect. 2. c. 1.

<sup>l</sup> See Thucyd. l. i. p. 2.

<sup>m</sup> See *supra*, b. 2. p. 173.

and at last, in the space of one age, Cecrops, Cadmus, Danaus, &c. come and form new establishments in Greece. These last colonies succeeded more happily than the first in polishing that country. Their chiefs succeeded in persuading the Greeks to addict themselves to agriculture<sup>n</sup>. From thence commerce was seen to spring up among these people. These facts are perfectly conformable to all that remains of ancient traditions. They teach us, that the custom of trafficking was not introduced into Greece till some years after the arrival of Cadmus. It is to Bacchus, grandson of this prince, that antiquity attributes the institution of all the rules relative to this object<sup>o</sup>.

I said in the first part of this work, that originally trade was only carried on by exchange, and that it was by estimation they then regulated the price of the effects with which they would trade. We have there also seen, that the people were not long of perceiving the inconveniencies of that way of trading, and had sought for means to remedy it, and that successively they had invented measures, then weights and scales. I remarked, that they had afterwards introduced metals into commerce, as common signs and representations of merchandise; and that in the first times it was the weight which regulated the price; and that, lastly, they had found out the art of making money properly so called<sup>p</sup>. The history of commerce among the Greeks, gives us a faithful image of these different gradations; but it is difficult to mark the epoch, and assign the time of the greatest part of these customs.

It is certain, that the primitive manner of buying and selling by exchange originally had place in Greece. This manner of trafficking was still used at the time of the war of Troy. In the *Odyssey*, Minerva disguised in the figure of a stranger, says, that she traded on the sea, and that she was going to Temele to look for tin to exchange against iron<sup>q</sup>. Exchange not only had place in trading by wholesale, but likewise in trading by retail. In the *Iliad*, many

<sup>n</sup> See *ibid.* p. 174.

<sup>o</sup> *Plin.* l. 7. sect. 57. p. 411.

<sup>p</sup> Book 4. c. 1.

<sup>q</sup> *L. I. v.* 182. &c.



ships loaded with wine arrived from Lemnos at the Grecian camp; immediately the troops try to procure it, some for tin, others for iron, these for skins, and those for oxen. They even gave slaves <sup>r</sup>.

In these passages Homer does not say, that they measured or weighed the goods with which they trafficked; but it must be understood. We see in effect by other places of this poet, that measures <sup>s</sup> and balances <sup>t</sup> were then known. We must not therefore depend upon those authors, who would make Pheidon of Argos pass for the inventor of weights and measures in Greece <sup>u</sup>. That prince did not appear till some time after Homer <sup>x</sup>. I shall entirely agree, that Pheidon found the art of perfecting weights and measures: that is the sentiment of many writers of antiquity <sup>y</sup>.

Although the manner of trafficking by exchange was still used at the time of the war of Troy, yet from that time metals were introduced into commerce. Homer often speaks of talents of gold <sup>z</sup>. It appears plain enough, that in early times it was the weight that determined the value of metals among the Greeks, as well as among the ancient people. We might even say, that we find a proof of it in the etymology of the word *talent*, which was the same with the Greeks as the French ideal *livre*, or *livre* of account. That term signified originally in Greek *balances*, *weights*.

With respect to money, it is almost impossible to be able to determine with precision, the time the use of it was introduced into Greece. The ancients are divided as well about the epoch as about the author of that invention. Some give the honour to Erichthonius fourth King of Athens <sup>a</sup>.

This

<sup>r</sup> L. 7. v. 492. &c.

<sup>s</sup> Iliad, l. 7. v. 471. &c.

<sup>t</sup> Ibid. l. 8. v. 69. &c.

<sup>u</sup> Plin. l. 7. sect. 57. p. 414.; Euseb. chron. l. 2. p. 112.; Schol. Pindar. *ad* Olymp. od. 13.

<sup>x</sup> See Marsh. p. 420.

<sup>y</sup> Syncell. p. 198.; Isidor. orig. l. 16. c. 24.

This is what should be concluded from the manner they express themselves about Pheidon. Herod, l. 6. n. 127.; Strab. l. 8. p. 549.

<sup>z</sup> See Feith. antiq. Hom. l. 2. c. 10. p. 201.

<sup>a</sup> See Hygin. fab. 274. p. 327.; Plin. l. 7. sect. 57. p. 414.; Pollux, l. 9. c. 6. p. 1063.

Indeed

This prince lived about 1513 years before Christ. Others refer the art of coining money to Pheidon King of Argos<sup>b</sup>. This epoch falls about 890 years before Christ. There are lastly some who attribute that invention to Æginetes<sup>c</sup>, but without fixing the time.

If we consult Homer to clear up this question, we shall find nothing that is absolutely decisive. This poet, as I have just said, speaks often enough of talents. We see farther, that, on many occasions, to distinguish the value or the price of a thing, he makes use of this expression: It is worth an hundred *oxen*; it is worth nine<sup>d</sup>. This manner of expression, as well as the use of the *talent* in Homer, has given room for great disputes among the critics.

Some think, that this manner of designing the price of a thing by a certain number of oxen, should not be taken literally. It should be understood, say they, of certain pieces of money which they called *oxen*, because they bore the impression of that animal<sup>e</sup>. The coins of that fabric were of gold<sup>f</sup>. They were current principally among the Athenians, and in the isle of Delos<sup>g</sup>. According to Plutarch, Theseus was the first who used this money. He marked it with an ox, says that historian, either in memory of the bull of Marathon, or with a view to exhort the Athenians to tillage<sup>h</sup>. I do not think, that Plutarch has hit upon the true motives of this custom. I shall give the reason of it immediately. Though it be so, we cannot doubt, that these pieces of gold marked with the impression of an ox, were formerly pretty much dispersed in Greece: they have even given

Indeed Pliny and Hyginus do not expressly say, that Erichthonius first used money. Yet it may be conjectured, as on one side Pliny says, that Erichthonius invented silver, and on the other, Hyginus says, that this prince was the first who made that metal known to the Athenians. This conjecture is strengthened by the testimony of Pollux, who places Erichthonius in the number of those who passed for having introduced money into Athens.

<sup>b</sup> Strabo, l. 8. p. 577.; Pollux, *loco cit.* p. 1062.

<sup>c</sup> Ælian. var. hist. l. 12. c. 10.

<sup>d</sup> Iliad. l. 2. v. 449. l. 6. v. 236. l. 21. v. 79.

<sup>e</sup> Pollux, l. 9. c. 6. § 60. p. 1029.; Schol. Homeri *ad* Iliad. l. 2. v. 449. & *ad* l. 21. v. 79.

<sup>f</sup> Schol. Hom. *ad* Iliad. *loco cit.*

<sup>g</sup> Pollux, *loco cit.* p. 1029. & 1030.

<sup>h</sup> In Thef. p. 11.



rise to that famous and ancient proverb, *He carries an ox upon his tongue*<sup>i</sup>, which they applied to those who had sold their vote and were silent for money<sup>k</sup>.

Other critics maintain, that Homer meant it all naturally of oxen, and that this was the manner of estimating and denoting the price of all goods at the time of the war of Troy<sup>l</sup>. Thus, when they said, that such a thing was worth ten oxen, an hundred oxen, &c. they really meant, that they should give ten oxen, an hundred oxen in exchange for that merchandise.

There are, lastly, some who take a middle way between these two opinions, and pretend, that in these passages of Homer there is no question neither of pieces of money, which bore the impression of an ox, nor of real oxen. Their opinion is, that this sort of money consisted in pieces of gold or silver, which they cut proportionate to what they valued an ox<sup>m</sup>.

With respect to the *talent*, it is still more difficult to give an exact notion, or to conjecture what idea they annexed to that word in the heroic ages. Certain commentators advance, that they had then pieces of money called *talent*<sup>n</sup>. Others, and these much the greater number, believe that weight alone regulated the price of that sort of money; that is to say, that they called *talent* a certain quantity of metal weighing a certain weight: it is for this reason, say they, that there are spoken of in antiquity *great* and *little* talents relative to their weight. Farther, they maintain, that they never had pieces of money known and denoted by the name of *talent*: it was, add they, a simple way of counting and valuing large sums. Among such disputes and difficulties, here is the sentiment which to me appears most probable.

<sup>i</sup> Æschyl. in Agamemnon. v. 36.

<sup>k</sup> Pollux, loco cit. p. 1030.; Suidas, t. 1. p. 449.; Hesychius voce Τάλαντον; Eustath. ad Iliad. l. 1. v. 449.

<sup>l</sup> Pollux, l. 9. c. 6. segm. 73. & 74.; Kuster, ad Suid. Αλφάνου not. (14) t. 1. p. 128.

<sup>m</sup> Ottho Sperling. de numm. c. 22. p. 144. <sup>n</sup> Feithius, l. 2. c. 10. p. 221.

I think, with the greatest number of authors, that they had in the heroic ages stamped money among the Greeks. I presume, that this invention had been brought to them by the different colonies from Asia and Egypt, who came successively to establish themselves in Greece. I think I have sufficiently shewn in the first part of this work, the antiquity of money in Phœnicia, Assyria, and Egypt<sup>o</sup>. I shall add, that the first money of the Greeks bore the impression of an ox. The testimony of the writers of antiquity is precise and unanimous in it<sup>p</sup>. The motives of this choice are easily perceived. Before the Greeks had introduced metals into their commerce, they made use of oxen as the most precious merchandise to value all other sorts of goods<sup>q</sup>. The Romans did the same in early times<sup>r</sup>. When the Greeks afterwards learned the art of impressing on a certain portion of metal, a mark which could ascertain its price and value, they naturally chose at first the impression of the object which had served them originally to value all other merchandise. It seems to me then, that Homer meant these ancient pieces in the passages where he values the price of any goods by a certain quantity of oxen. I further think, that it had been with the first Greek money as with that of all the ancient people. I would say, that it was very gross and shapeless. We must look upon Pheidon of Argos as the first who is said to have shewn the Greeks the art of giving to their coins a regular and agreeable form. It is in this sense, as I presume, that we should give to this prince the title of the inventor of money in Greece.

It is not so easy to explain what Homer understood by the word *talent*. I do not think, that they ever had a piece of money which bore that name. We must presume, that the talent was then fictitious money. We know in effect, that, besides real sorts of gold, silver, and copper, the ancients used fictitious money in calculation, otherwise called money

<sup>o</sup> Book 4. c. 1.      <sup>p</sup> See *supra*, p. 309. & 310.

<sup>q</sup> See Paus. l. 3. c. 12. p. 235.

<sup>r</sup> See Plin. l. 18. sect. 3. p. 93. l. 33. sect. 13. p. 610.; Columel. *in præfat.* l. 7.



of account, which was only, as at this time, a manner of computing. For example, with the French, the sum of fifty livres is reputed to contain fifty pieces called livres. Yet these pieces are not real; that sum must be paid in different species, as in lewis d'ors, in crowns, or other current money. It may have been the same with the Greeks of the *talent*, which having served originally to weigh gold and silver, was afterwards applied to mean a certain quantity of these metals reduced into money; a quantity which, according to all appearances, was inconsiderable enough in the first times. In effect, Homer gives the sum of two talents of gold, as one of the least objects of all those which composed the prizes of the games celebrated by Achilles to honour the funeral of Patroclus<sup>r</sup>. Let us observe further, that the same poet never speaks of drachmas, nor obolus's, &c. It may be inferred from this, that these little coins, so proper to facilitate trade by retail, and above all, in the sale of provisions, were still unknown in Greece at the time of the war of Troy.

I shall not stop to inquire into the means which the Greeks used originally to execute their interior commerce. We are ignorant in what time these people had learned to make use of beasts of burden to carry goods. We only know, that they used carts very anciently. The Greeks were indebted for that knowledge to Erichthonius fourth King of Athens<sup>t</sup>, which epoch falls about 1513 years before Christ. With respect to boats, it is not possible to fix the time in which the use of them was introduced into Greece.

Whatever way the Greeks carried on their interior commerce, it must have been a long time weak and languishing. Anciently they had no strong cities in Greece, and much less flourishing states. They did not cultivate the earth, and the arts were very little known there<sup>u</sup>. Independent of

<sup>r</sup> Iliad. l. 23. v. 259.

<sup>t</sup> Ælian. var. histor. l. 3. c. 38.; Tertull. de spect. c. 9.; Euseb. chron. l. 2. p. 79.

<sup>u</sup> See Thucyd. l. 1. p. 2. 6. 9.; Herod. l. 8. n. 137. See also supra, book 2. sect. 2. c. 1.

their want of industry, the dangers to which travellers were exposed in the heroic times, formed an obstacle to the circulation and progress of commerce. The roads were every where infested with robbers, and they could not travel without being well armed \*. Theseus made himself immortal by his courage and activity in clearing his country of the thieves who infested it. These exploits established the public security, and the roads from that time were free †. This hero had proposed the example of Hercules, who had employed the best part of his life in running over Greece to exterminate thieves and robbers \*.

If the Greeks, in the heroic times, had little opportunity for exercising their commerce by land, they found yet greater difficulties to surmount with respect to the sea. One may judge of this by the facts which the history of navigation among these people presents; an history which must necessarily precede that of their maritime commerce.

The Greeks, whose lot it seems to have been to borrow from other nations the first elements of the most useful sciences, owed to foreigners the first notions of the art of navigation, an art in which they afterwards excelled. The first principles were brought to them by the colonies, which, about the time of Abraham, made the conquest of Greece under the conduct of the Titan princes ‡. The anarchy which followed the sudden extinction of that family †, did not allow the Greeks to profit by that discovery. The sea-coast became even dreadful to those who inhabited it. They were soon attacked by a number of pirates. Being unable to oppose their violences, they had no choice but to retire into the inland countries ‡. The conductors of the last colonies which came from Egypt and Asia into Greece, shew-

\* Thucyd. l. 1. p. 2.; Appollod. l. 3. p. 206.; Plut. *in* Thes. p. 3.

† Apollod. Plut. *loco cit.*; Paus. l. 2. c. 1. p. 112.

\* Such was the state of France at the beginning of the third race. All communication of one country with another was then intercepted.

‡ See Æschyl. *in* Prometh. vincito, v. 466.

‡ See part I. art. 5. p. 65. 66.

‡ Thucyd. l. 1. p. 6.



ed these people how to defend themselves against the incursions of pirates. For this purpose they persuaded them to unite, to build cities, and to fortify them<sup>c</sup>. The Greeks were then enabled to inhabit the sea-coasts, and to apply to navigation.

The inhabitants of Attica appear to have been the first who enjoyed this advantage. They owed it to Cecrops, who, at the head of an Egyptian colony, came and settled in that country 1582 years before Christ<sup>d</sup>. There is room to believe, that this prince was either accompanied by a small fleet, or that he caused some ships to be built on a model of his making. We see, in effect, that Cecrops used to send to Sicily for the corn his colony wanted<sup>e</sup>. It must also be thought, that the Athenians had some naval forces at that time. History says, that Erichthon, son of Cecrops, seized on the isle of Delos<sup>f</sup>, 1558 years before Christ. Such an expedition could only succeed by means of a certain number of ships. Yet it does not appear that these first enterprizes had any consequences. Every thing, on the contrary, leads us to think, that the Athenians, after the death of Cecrops, neglected naval affairs, and lost sight of that important object. We see, that, in the time of Theseus, they were obliged to have recourse to the sailors and pilots of Salamin to conduct the ship that carried this hero into Crete<sup>g</sup>. We will remark farther, that for many ages the Athenians had only one port, which was that of Phaleris<sup>h</sup>, which, to speak properly, was nothing but a bad harbour.

Other people of Greece addicted themselves, about the same ages, to navigation, and distinguished themselves greatly. Such were the inhabitants of the isle of Ægina, to whom ancient memoirs attribute the invention of that art<sup>i</sup>. Such also were the inhabitants of Salamin, who

<sup>c</sup> Philocor. *apud* Strab. l. 9. p. 609. ; Thucyd. l. 2. p. 108.

<sup>d</sup> See *supra*, book I. chap. 4. art. 1. p. 16.

<sup>e</sup> Tzetzes *ex* Philocor. *ad* Hesiod. op. v. 32. p. 18. edit. in 4to. 1603.

<sup>f</sup> Paus. l. 1. c. 31. ; Euseb. chron. l. 2. n. 90. p. 76. ; Athen. l. 9. p. 392. according to the correction of Casaubon, animadv. p. 673. ; Syncell. p. 153.

<sup>g</sup> Plut. *in* Thes. p. 7.

<sup>h</sup> Paus. l. 1. c. 1. p. 3.

<sup>i</sup> Hesiod. fragm. p. 343.



appear to have excelled, in the heroic times, by their skill and experience in navigation<sup>k</sup>. We may also put the Argives in the number; and that not without good reason. The vessel in which Danaus came into Greece, has been celebrated by all the writers of antiquity<sup>l</sup>. We are not ignorant, that this prince seized on the throne of Argos 1510 years before J. C.<sup>m</sup>; but we may say, that none of these people could be compared with the Cretans. Minos has been always looked upon by the ancients as the first Greek prince who had the empire of the sea<sup>n</sup>. I speak of Minos the Second, who took so bloody a vengeance of the Athenians for the murder of his son Androgeos<sup>o</sup>. This prince was able to equip a fleet strong enough to clear the sea of the pirates who infested it<sup>p</sup>. This empire of the sea, of which antiquity gives the honour to Minos, must only be understood of the superiority he had in the Cretan sea and the adjacent isles: that is to say, that this prince having a great number of ships in these parts, was there the most powerful. With regard to the maritime commerce of the Cretans, I do not find any thing of all that remains of antiquity, that can give us the least indications of it.

We see some traces of maritime expeditions in what the ancient mythology has preserved for us of the voyages of Bellerophon, of Perseus, and of Hercules<sup>q</sup>. But I doubt if these enterprises have been so extensive as certain modern critics would persuade us<sup>r</sup>. The Greeks were then too ignorant in navigation. Although their writers have boasted greatly of the naval forces of Minos, yet we ought not to form a great idea of the fleet of this prince. The ships which composed it, scarce deserved that name.

<sup>k</sup> See *infra*, p. 321.

<sup>l</sup> Apollod. l. 2. p. 63; Plin. l. 7. sect. 57. p. 417.

<sup>m</sup> See *supra*, p. 34.

<sup>n</sup> Thucyd. l. 1. p. 4.; Herod. l. 3. n. 122.; Arist. de repub. l. 2. c. 10.; Diod. l. 4. p. 304; Strabo l. 10. p. 730.

<sup>o</sup> Plato de leg. l. 4. p. 825.

<sup>p</sup> Thucyd. l. 1. p. 4.

<sup>q</sup> See les mem. de l'acad. des inscript. t. 7. h. p. 37. &c.

<sup>r</sup> Id. *ibid.* p. 220. &c.



They had no sails. Dædalus is always looked upon in the Greek antiquity to have invented them, when he tried to find means to fly from the isle of Crete. This famous artist then found, say they, the secret of availing himself of the wind to hasten the course of his ship. By means of this new discovery, his ship passed safely through the middle of Minos's fleet, without their being able to inclose him; the use and force of oars giving way to the activity of the wind, of which Dædalus had the advantage <sup>f</sup>.

This knowledge had not then made a great progress among the Greeks. It appears, indeed, that after Dædalus they used sails; but they were ignorant of the art of managing them properly. Æolus, he who received Ulysses on his return from Troy, passed in Greece for the first who had shewn the sailors to know the winds, and the manner of profiting by them, by turning the sails agreeably to their direction <sup>g</sup>. Yet what can we think of these instructions? At the time of Homer, that is to say, about 300 years after the war of Troy, the Greeks only knew the four cardinal winds <sup>h</sup>. Vitruvius and Pliny tell us, that these people were a long time ignorant of the art of subdividing the intermediate parts of the horizon, and of determining a number of rhombs sufficient to serve the purposes of a navigation of small extent <sup>i</sup>.

The voyage which the Argonauts undertook to penetrate into Colchis, made the Greeks make some progress in naval architecture. Till that time, by the confession of their best historians, these people only used barks and little merchant-vessels <sup>k</sup>. Jason foreseeing all the dangers of the expedition he meditated, took extraordinary precautions to make it succeed. He caused to be built at the foot of Mount Pelion in Thessaly, a ship, which, for largeness, and com-

<sup>f</sup> Plin. l. 7. sect. 57. p. 418. ; Paus. l. 9. c. 11. p. 732.

<sup>g</sup> Diod. l. 5. p. 336. ; Plin. l. 7. sect. 57. p. 416. ; Servius *ad* Æneid. l. 1. v. 56.

<sup>h</sup> Odyss. l. 5. v. 295.

<sup>i</sup> Vitruv. l. 1. c. 6. ; Plin. l. 2. sect 46. p. 26.

<sup>k</sup> Diod. l. 4. p. 285.

pleteneſs of rigging, ſurpaſſed all thoſe that had been ſeen to that time. This was the firſt ſhip of war which went out of the ports of Greece <sup>c</sup>. The fame of this armament being ſpread, all the moſt diſtinguiſhed people of the nation would have a part in it, and embarked under the conduct of Jaſon, 1253 years before J. C.

It would be very ſatisfactory to be able to penetrate into the motives and the object of an enterpriſe in which all Greece was intereſted. But the events of theſe remote times are ſo involved in fables, that it is very difficult to obtain the truth from them. We cannot determine exactly what the golden fleece was, of which the Argonauts propoſed the conqueſt. The ſentiments of ancient authors are very much divided on this point. The voyage of the Argonauts was intended, according to ſome, to draw from Colchis the treaſures which Phryxus had carried there <sup>d</sup>; others think, that the notion of the golden fleece aroſe from the cuſtom they had, in theſe countries, of collecting, by means of ſheep-ſkins, the gold which rolled down certain torrents <sup>e</sup>. Varro believes that this fable owed its origin to a voyage undertaken by ſome inhabitants of Greece, who went to look for ſkins and other rich furs which Colchis furniſhed in abundance <sup>f</sup>. According to this ſentiment, which has been adopted by many modern critics <sup>g</sup>, we ſhould only look upon the expedition of the Argonauts as an enterpriſe formed by ſome merchants associated to make new diſcoveries. I do not ſpeak of the viſions of the alchymiſts. Accuſtomed to find every where the ſecret of the great work, they will have it, that the Argonauts undertook the voyage to Colchis, with a deſign to

<sup>c</sup> Diod. *ibid.*; Plin. l. 7. ſect. 57. p. 417.

<sup>d</sup> See Herod. l. 7. n. 197.; Diod. l. 4. p. 209.; Hygin. *fab.* 3; Palæphat. c. 31. p. 39.

<sup>e</sup> Strabo, l. 11. p. 763.; Appian. *de bell. Mithridat.* p. 242. Near Fort-Louis, they uſe ſuch fleeces to gather the gold powder, which the Rhine rolls down. When theſe ſkins are well filled, one may, by alluſion, call them fleeces of gold.

<sup>f</sup> *De re ruſt.* l. 2. c. 1.

<sup>g</sup> Le Clerc *b. univ. t. 1. p. 247*; Mem. de Trev. Juin. 1702. p. 66.



bring from thence a book written on sheeps skins, in which was contained the secret of making gold <sup>h</sup>.

Of all those who have tried to clear up this event, I think that Eustathius has given us the most just and most exact idea of it <sup>i</sup>. He took it from an ancient historian <sup>k</sup>. The voyage of the Argonauts, according to this author, was at once a military and mercantile expedition. The object which they proposed to themselves, was to open the commerce of the Euxine sea, and at the same time to secure some establishments. To succeed in this, they must have had a fleet and troops. Thus the armament of the Argonauts was composed of many ships, and they left colonies at Colchis. We find a proof of this in Homer and many other writers <sup>l</sup>. Yet most of the poets have only spoken of the ship Argo, because, being the admiral of the fleet, that vessel carried the princes who assisted in the voyage. The other objects of that enterprize do not equally interest poetry and the muses.

I shall not undertake to follow the Argonauts in their voyage. For want of sufficiently understanding navigation, their fleet was a long time on different coasts. They ran a great risk in the passage of Cyanees or Symplegades. They formerly called so a heap of rocks which shew themselves four or five leagues from the entrance of the Euxine sea. As they are very near each other, in proportion as you are distant from them, or you approach to them, these rocks appear to join or to separate. The waves of the sea, which dash against them with impetuosity, raise a vapour, which, obscuring the air, hinder the distinguishing exactly the objects, and augment the illusion <sup>m</sup>. At the time of the Argonauts, they believed these rocks moveable, and they imagined that they joined to destroy ships in their

<sup>h</sup> Suid. *voce* Δέγας, t. 1. p. 525.; Anonym. *Incred.* c. 3. p. 86.

<sup>i</sup> Ad Dionys. *Perieget.* v. 689.

<sup>k</sup> Charax.

<sup>l</sup> *Iliad.* l. 5. v. 641. &c.; *Plin.* l. 6. sect. 5. p. 305.; *P. Mela*, l. 1. c. 19. p. 106.; *Strabo*, l. 11. p. 758.; *Eustath.* *loco cit.*

<sup>m</sup> *Tournefort*, *voyage du Levant*, t. 2. p. 149. &c.

passage.



passage<sup>a</sup>. Terrified at the aspect of this strait, our heroes let go, say they, a dove to try if she could pass it safely. The bird escaped by losing the end of her tail. The Argonauts emboldened by this example attempted the passage. The ship Argo only touched with her poop, of which she lost a little<sup>b</sup>. The dove is, without doubt, an emblem of a small vessel which they sent to discover the passage. Apollodorus says, that she lost the end of her tail; an expression which signifies, that the ship struck her rudder against some rocks. They add, that since that time Neptune fixed these rocks<sup>c</sup>; that is to say, that this passage being afterwards known, they made no more difficulty of attempting it.

Lastly, after many other adventures, which I pass over in silence, the Argonauts discovered Caucasus. That mountain served them as a land-mark, and directed them to enter into Phasus, where they anchored pretty near *Æa*, which was then the capital of Colchis. I shall say nothing of the consequence of that expedition, which does not afford any light either in commerce or navigation. I shall only add one reflection on that event, considered merely as a maritime enterprise.

Some persons, little attentive to the times, and to the circumstances in which the Greeks attempted the voyage to Colchis, have not perceived all the boldness of it. That exploit so boasted of, say those critics, would not at this time be the subject of the most trifling conversation. It was to make themselves immortal at a very little expense. They were very happy, add they, who lived in such ages; they had only to place themselves properly, &c.

I doubt whether those who speak thus of the expedition of the Argonauts, have paid sufficient attention to the state of navigation at that time in Greece. That art

<sup>a</sup> Apollod. l. 1. p. 43.; Homer. *Odyss.* l. 12. v. 66. &c.; Strabo, l. 1. p. 39. l. 3. p. 222. &c.; Plin. l. 4. sect. 27. p. 219.; Ammian. Marcell. l. 22. c. 8. p. 310.

<sup>b</sup> Apollod. l. 1. p. 48. & 49.

<sup>c</sup> Ibid. p. 49.



scarce emerged from its infancy. The Greeks, in the heroic ages, were absolutely deficient in experience and skill in navigation, yet they went to encounter a sea that was entirely unknown to them <sup>a</sup>.

I think then, all things considered, there was as much danger, and, of consequence, as much merit in the voyage to Colchis, as there has been in the most famous voyages undertaken for these two centuries. The succours which the navigators of these latter times have been able to procure to themselves, diminish considerably the obstacles they may meet with.

After the expedition of the Argonauts, the Greeks turned their thoughts more particularly to maritime affairs. We may judge of the progress they made in the marine, by the fleet which they assembled to carry the war into Asia and ruin Troy. It consisted of twelve hundred vessels <sup>r</sup>. Yet this armament was only thirty-five years <sup>r</sup> posterior to the voyage to Colchis.

I shall not stop to give the particulars of the number of ships which each of the people of Greece furnished, who had a part in that grand expedition. I shall content myself with some general observations.

The naval forces of Agamemnon, King of Argos and Mycenæ, must have been considerable. This prince had equipped 160 ships <sup>t</sup>. The Athenians brought 50 <sup>u</sup>. That was a great many for people who had only begun to use the sea since the reign of Theseus. It is astonishing enough, that in less than forty years they were able to furnish such a number; but it is much more surprising, that the Athenians should have suffered their marine afterwards to come to nothing; there was no more mention of it for the space of 700 years, which had elapsed from the war of Troy to the battle of Marathon: for, according to the remark of Thucydides, it was not till ten or twelve years

<sup>a</sup> See Strab. l. i. p. 39.

<sup>r</sup> Hom. Iliad. l. 2. B. v. 16. &c.; Thucyd. l. i. p. 8.

<sup>t</sup> See Ban. explicat. des fables, t. 6. p. 442.

<sup>u</sup> Hom. Iliad. l. 2. B. v. 83. & 118. <sup>u</sup> Ibid. v. 64.

after that famous day that the Athenians became sailors \*; and yet from that time they were looked upon as the people of Greece who best understood navigation †.

The Lacedæmonians must also have addicted themselves to maritime affairs some time before the war of Troy. Menelaus King of Sparta commanded 60 ships ‡. One would believe that these people at that time surpassed the Athenians, who had only sent 50. But it must be observed, that the armament of Menelaus was not composed solely of ships furnished by Sparta. Homer names many other cities, who being at that time dependent on Menelaus, had contributed to form his squadron; whereas the 50 ships of the Athenians had been equipped by the single city of Athens. Navigation, besides, had never been the part in which the Lacedæmonians distinguished themselves. Lycurgus, who gave laws to Sparta many ages after the war of Troy, forbade navigation entirely §.

It is remarked, that Homer does not speak of Corinth, a city greatly celebrated by the other writers of antiquity, for its commerce and maritime forces. Without doubt, in the heroic times, the Corinthians were not yet famous for their skill in marine. Besides, these people were at this time subject to the kings of Mycenæ; they marched under the orders of Agamemnon ¶.

It appears, that the combined fleet of the princes of Greece arrived happily before Troy; history does not furnish us, in this passage, with any event relative to navigation.

I have said in the first part of this work, that there is no mention made in early antiquity of sea-fights. If we would believe certain memoirs, Minos was the first who ventured on one †. This is a fact which can neither be

\* L. i. p. 11. & 12.

† They said in Greece: *The Athenians for the sea.*

‡ Hom. Iliad. l. 2. B. v. 94.

§ See part 3. book 4. chap. 3.

¶ Hom. Iliad. l. 2. B. v. 77.; See also Paus. l. 2. c. 4.

† Plin. l. 7. sect. 57. p. 418.



denied nor affirmed positively. It only appears pretty certain, that this prince suppressed the pirates who ravaged the Ægean sea <sup>d</sup>. But that might happen without sea-fights; perhaps it was by destroying their ships in the harbours and roads, to which they were used to retire. We find also in Athenæus, that the Argonauts were attacked by the Tyrrhenians, who engaged them in a bloody battle. All these heroes, except Glaucus, were wounded there <sup>e</sup>. No author of antiquity has spoken of this event. Athenæus is the only one who has mentioned it on the authority of an ancient writer named Posis. He reports this fact in the third book of his work intitled *Amazonide*. As this Posis is entirely unknown to us, it is uncertain whether this author deserves much credit.

We may oppose to all these different facts, the silence of Homer. We do not find in his writings any indication of a naval battle. He never speaks even of a battle between ship and ship. Yet such descriptions would have adorned his poems, and it would have been easy for him to have placed one there. But further, we have seen in the preceding chapter, that the Trojans had ships. Æneas and Antenor saved themselves, each separately, at the head of a pretty considerable fleet <sup>f</sup>. Yet it is not seen, that the Greeks endeavoured to oppose their retreat. History says nothing of it. This silence is so much the more singular, as the Greeks, as to what appears, were masters of the sea. It is said in the Iliad, that when Iphidamas came to the succour of Troy with twelve ships, he left them at Percope, and finished his voyage by land <sup>g</sup>. It is not then easy to comprehend how Æneas and Antenor could pass by the fleet of the Greeks, which had the same route for their return, without giving battle. It is true, some authors pretend, there had been a treaty between the Trojan princes and the Greeks, not to disturb them in their retreat <sup>h</sup>. This is a fact which I shall not undertake to

<sup>d</sup> See *supra*, p. 318.

<sup>e</sup> L. 7. c. 12. p. 296.

<sup>g</sup> L. 11. v. 228. & 229.

<sup>f</sup> See *supra*, p. 296.

<sup>h</sup> Dionys. Halicarn. l. 1. p. 37.

examine into: but supposing that Homer has followed this opinion, not to attack the fleet of Æneas, nor that of Antenor, by the ships of Menelaus, of Ulysses, and the other Greek princes, when he relates the maritime expeditions before the taking of Troy; it is very worthy of remark, that this poet has not thought of making a description of some naval combat, he who has neglected no occasion of speaking of all that he could have read and seen.

I have traced succinctly the history of the marine among the Greeks in the heroic times. Let us now examine what was the construction of their ships, and the manner in which they were navigated. Homer shall be my principal guide. It is to his writings that we ought to refer all that concerns that high antiquity.

We may be certain, that the Greeks, in the heroic times, did not use much art in the building of their ships. Pieces of timber placed at a little distance from each other, and united by tenons, formed the carcase<sup>i</sup>. Planks of a moderate thickness, pinned, and fastened with cords to the ribs of the ship, made the sides<sup>k</sup>. Other planks much longer, made the lower part or bottom of the hold<sup>l</sup>. These ships were decked; and Thucydides is deceived in advancing, that the vessels that carried the Greeks before Troy, were not covered<sup>m</sup>. It is sufficient to open Homer to be convinced that they were. This poet says, that Ulysses finished his ship, by covering it with very long planks<sup>n</sup>, terms which necessarily mean the deck. I presume, that these ships had no keel; Homer would not have forgot it<sup>o</sup>. With re-

<sup>i</sup> Odyss. l. 5. v. 252. & 253.

<sup>k</sup> Ibid. v. 248. I say pinned, and not nailed; because Homer uses in these passages the word *ῥάμφοι* instead of *ἑλός*, which he commonly uses for nails.

There are many nations at this time who only use pins to fix the planks of their ships. See M. Paul. l. 1. c. 23.

<sup>l</sup> Odyss. l. 5. v. 252. <sup>m</sup> L. 1. p. 3.

<sup>n</sup> Odyss. l. 5. v. 253. See also l. 13. v. 73. & 74. where it is said, that the Phœaciens set up Ulysses's bed on the deck of their ships.

<sup>o</sup> The ships of the Cossacks in the Ukraine have no keel. *Mercure de France*, Novembre 1739, p. 56. & 57.



spect to the rudder, they had only one <sup>p</sup>; it was fortified on both sides with hurdles made of the branches of fallow or osier. This method was invented to enable the rudder to resist the impetuosity of the waves <sup>q</sup>. The ships of the Greeks differed at that time from those of the Phœnicians, which, as I have remarked, had more than one rudder <sup>r</sup>.

We do not see, that they used any iron at that time in their construction <sup>s</sup>. These vessels then must have been very rude, especially as the Greeks, in the ages I speak of, were still ignorant of the use of the saw. They wrought their wood only with a hatchet and plane <sup>t</sup>. We may judge, after this detail, of the state of naval architecture at that time among these people. Their workmen had no other guide, but a very rude practice. They were not in a state to apply mathematics of which the Greeks, at that time, had no notion, to this part of navigation.

We should be surprised at the sort of wood the Greeks used to build their ships. They used alder, poplar, and fir <sup>u</sup>. We take care, at this time, that no such sorts of wood be used in the building of our ships; we only use it for the inside work <sup>x</sup>. But it must be observed, in these hot countries, the trees I have just mentioned are of a different species from those of our climates. They are much more hard, and much less subject to alter or warp. At this time, the Turkish ships are entirely built of fir, because the fir in these countries is as good as the oak in France. The pre-

<sup>p</sup> Odyss. l. 5. v. 255.

<sup>q</sup> Ibid. v. 256. & 257.

<sup>r</sup> See *supra*, chap. 2. p. 324.

It appears that the Greeks afterwards adopted the practice of other nations, and put more than one rudder to their ships. See Scheffer, *de milit. naval*, l. 2. c. 5, p. 146. & 147.

As to what this author says, that, in all the representations which remain of the ship *Argo*, that ship is always represented with more than one rudder, this concludes nothing for the times of which I speak. These representations are arbitrary designs, made in times too late to have any authority. It is well known that there are now no monuments of that high antiquity.

<sup>s</sup> See Paus. l. 9. c. 16. p. 742.

<sup>t</sup> See *supra*, book 2. sect. 2. chap. 3. p. 207. & 208.

<sup>u</sup> Odyss. l. 5. v. 239.; Plato *de leg.* l. 4. p. 824.

<sup>x</sup> They never use fir for the outside, but when they sheath the ships going to America, to defend their sides against the worms that eat into them.

ference then which the ancients gave to these woods, was very well founded: they even found a great advantage in using them; for these woods being very light, they were most proper to make the ships built of them good sailers.

Homer does not acquaint us whether the Greeks used to careen their ships in the heroic times. Suidas says, the Phœacians, among whom Ulysses was cast by a tempest, covered their ships with pitch<sup>y</sup>; but this authority is too modern for ages so distant as those of which we now speak. What we are sure of is, that, in latter times, they used for this purpose, pitch, gum, and even wax<sup>z</sup>.

It is not the same with respect to ballast. They perceived at that time the necessity of giving to ships a certain weight to make them sink into the water, to serve them as a counterpoise, and hinder them from being overset. Thus the Greeks took care to ballast their ships<sup>a</sup>. They pretend that Diomede, on coming from Troy, used for this purpose the stones of that unfortunate city<sup>b</sup>.

Our ships have four masts. Those of the Greeks, at the time of the war of Troy, had only one<sup>c</sup>, which even did not remain fixed, since they used to lower it upon the deck when the ship was in port. They raised it when they would go out, and secured it with ropes<sup>d</sup>. The mast was only crossed with one sail-yard<sup>e</sup>. It would be difficult to determine, with certainty, if the yard carried many sails, or only one. The first sentiment appears the most probable, considering that Homer always named sails in the plural<sup>f</sup>. They managed them by means of many ropes.

<sup>y</sup> Voce *Ναυπηγία*, t. 2. p. 600.

<sup>z</sup> See Ovid. de remed. amor. v. 447. epist. 5. v. 42. Metam. l. II. v. 314. l. 14. v. 552.: Voss. de idol. l. 4. c. 92. p. 549.

As the ancients did not use wax to light them, it is not surprising that they used it to lay upon their ships.

<sup>a</sup> Odyss. l. 5. v. 257.

<sup>b</sup> Lycophron, Cassand. v. 612.

<sup>c</sup> Odyss. l. 5. v. 254.

<sup>d</sup> Iliad. l. I. v. 431.; Odyss. l. 2. v. 424. & 425. l. 15. v. 290.

Their masts must have been disposed almost like the passage-boats, and large vessels used on the Seine. They lower them when they want to go under the arch of a bridge.

<sup>e</sup> Odyss. l. 5. v. 254.

<sup>f</sup> Ibid.



We see, that, in the heroic times, the different tacklings of a ship had each their particular name, and that relative to their destination <sup>z</sup>.

The sails were made of different substances, of hemp, rushes of long-leaved plants, of matts and skins <sup>h</sup>. Yet it appears, that those of the Greeks were most commonly of cloth <sup>i</sup>. It is the same with respect to cables; they used skins, flax, broom, hemp, in a word, all the different plants and barks which could serve for that purpose <sup>k</sup>. Cables of rushes or sea-willow seem to have had the preference with the Greeks in the heroic times. They got them from Egypt, where this plant is very plentiful <sup>l</sup>. Homer does not say, whether they covered the ropes with any preparation, which, by defending them from the impressions of air and water, might keep them from rotting.

The custom of painting and adorning ships is very an-

<sup>z</sup> Odyss. l. 5. v. 260.

In these passages, by ὑπέρλας, must be understood, the ropes which work the yard; by κάλυξ, those which serve for the sails; and by πόδας, those which secure and hold the mast, the same which we call *shrouds*. When cables are mentioned which serve to hold the ship, whether in port or on the coast, Homer always designs them by the word *πρυμνήσια*; but when the rigging in general is spoke of, this poet uses the word *πίσμαλα*. Thus, properly speaking, the *πίσμαλα* are the ropes, which serve for working a ship, and the *πρυμνήσια*, those only at the stern. The difference of these two words is evident from their etymology. The first comes from *πείθω*; this name is taken from the use the sailors make of these ropes. They use them to make the ship turn and move as they please. The second comes from *πρύμνη*, which means the poop or stern of a ship.

<sup>h</sup> See Voss. de physiol. l. 5. c. 39. p. 661.; Scheffer, l. 2. c. 5. p. 141.

<sup>i</sup> Odyss. l. 5. v. 258. & c. l. 2. v. 426.

Eustathius conjectures that the sails of the Greek were of linen, on this, that it is said in the second book of the Odyssey, v. 426. that those of Telemachus's ship were white.

<sup>k</sup> Iliad, l. 2. v. 135.; Odyss. l. 2. v. 426.; Aul. Gell. l. 17. c. 3; Voss. & Scheffer, *locis cit.*

<sup>l</sup> Odyss. l. 21. v. 390. & 391.

These cables were made of a plant, called *Eyblus*, which they gathered in the morasses of Egypt. It was a sort of cane or reed which had at the top a sort of hair, if one may call it so. They made cables for ships and ropes of this hair, as they then made ropes for wells of the bark of the linden-tree. See Strab. l. 17. p. 1151.

cient.

cient, and took place before the war of Troy<sup>m</sup>. Herodotus says, that then they used vermilion for this purpose. The manner in which he expresses himself, gives to understand that this custom did not subsist in his time<sup>n</sup>.

After having spoken of the construction of ships and their rigging in the heroic ages, it is proper to examine what their form was at that time.

It appears, that the Greeks had very early two sorts of constructions; one for merchant-ships, and the other for ships of war. The first were very broad, having the hold very large<sup>o</sup>. The others, on the contrary, were made long. Such, they say, was the ship in which Danaus came into Greece. This vessel had fifty oars, that is to say, twenty-five on each side. They pretend, that it served for a model for the ship Argo, the first vessel of war the Greeks are said to have built<sup>p</sup>. Besides, we should look upon all these vessels as a sort of galleys which went with sails and oars. In effect, independently of sails, rowers are always mentioned, and the benches on which they sat<sup>q</sup>. I shall say nothing of vessels of many ranks of wars; they are not mentioned in Homer. They were only used since the war of Troy<sup>r</sup>.

Whatever form the ships of the Greeks might then have, they could not be very large. The largest Homer mentions are those of the Boeotians; they carried, says he, one hundred and twenty men<sup>s</sup>. It may, perhaps, be thought that the poet only meant the troops that disembarked; but this is not probable, since, as Thucydides very well observes, the soldiers served for rowers<sup>t</sup>. I think then the whole complement of these ships was one hundred and twenty men. Besides, we may judge of the smallness of their capacity from the custom the Greeks then had of drawing

<sup>m</sup> See Feith. antiq. Hom. l. 4. c. 12. p. 500.

<sup>n</sup> L. 3. n. 58.

<sup>o</sup> Odyss. l. 5. v. 249. &c.

<sup>p</sup> See Bochart, in Chan. l. 2. c. 11. p. 819.; Meziriac, ad ep. Ovid. t. 2. p. 81.

<sup>q</sup> Iliad. l. 1. v. 309. Odyss. l. 2. v. 419. &c.

<sup>r</sup> Thucyd. l. 1. p. 8. & 10.

<sup>s</sup> Iliad. l. 2. B. v. 16. & 17.

<sup>t</sup> L. 1. p. 8. See also Huet. hist. du commerce, p. 270. & 271.



their ships on land when they were in port <sup>u</sup>. Thus we see, that when they were going to imbark, the first operation was to launch the ships into the water <sup>x</sup>. This work was then so easy, that the sailors never failed to take away the rudder of their vessels when they were on shore, lest any body should run away with them without their knowledge <sup>y</sup>.

This custom of putting their ships on dry ground when they were not using them, is very extraordinary; and yet it was generally practised. The Grecian fleet was shut up in their camp before Troy. They had fortified their camp as well for their security, as to defend their vessels from the incursions of the enemy <sup>z</sup>. It is not easy to comprehend how they could, after a certain time, make use of such vessels which must have been extremely warped and open; they must have taken great care to repair them. The Greeks must have been so much the more attentive, as sailing on the Mediterraneān, their ships required a firm consistence. The surges of that sea are very short and very frequent; of consequence, they would dash oftener against the ship, and make her work much more than upon the ocean.

As to the manner of conducting a vessel, every thing proves to us how very ignorant the Greeks were in that art in the heroic times. Although these people steered in sight of the land, as much as they possibly could <sup>a</sup>, yet they were forced on many occasions to go off to sea <sup>b</sup>. I know not by what means sailors, at that time, could direct their course. We have great advantages from the observation of the meridian heights of the sun. It is thus that we de-

<sup>u</sup> Iliad. l. i. v. 485.; Odyss. l. ii. v. 20.; Hesiod. op. & dies, v. 624.; Strabo, l. 4. p. 298.

<sup>x</sup> Iliad. l. i. v. 308.; Odyss. l. 2. v. 389. l. ii. v. 2.; Hesiod. op. & dies, v. 631.

<sup>y</sup> See academ. des inscript. t. 7. h. p. 38.

<sup>z</sup> Iliad. l. 7. v. 437.

<sup>a</sup> Virgil, in making his hero range along the coasts of Greece, Italy, and Sicily, instead of conducting him over the open sea, is, in that point, conformable to the ancient practices.

<sup>b</sup> This is in sea-terms, *to put off to sea*.

termine with ease the elevation of the pole, and steer in consequence. But these practices were absolutely unknown to the Greek navigators. They never thought of the operations we make in the day-time, to ascertain the course of a ship in the open sea.

With respect to those which they executed during the night, we see that the Greeks had then some notions of the utility arising from the observation of the stars to conduct them at sea. They pretend, that they owed this knowledge to Nauplius, one of the Argonauts<sup>c</sup>. Be this as it will, it is certain, that the art of governing a ship by the aspect of the stars, must have been ancient enough in Greece. Homer describes Ulysses conducting his boat by regarding attentively the Pleiades, Ursa Major, and Orion<sup>d</sup>. We see also Calypso ordering this prince to make his route by leaving Ursa Major<sup>e</sup> on the left. That constellation was the principal guide of the Greek pilots<sup>f</sup>. I have shewn in the first part of this work, the inconveniencies of this practice, and the dangers which must result from it<sup>g</sup>. Besides, these observations, at that time, must have been very rude and very defective. They made them by a simple view; the Greeks, at that time, not having instruments to take their height.

They knew still less of sea-charts. How then could they be certain of the land they wanted to find, or, on the contrary, avoid the sands, rocks, and the coasts where they were in danger of running aground? Lastly, what must have been their embarrassment, when they were overtaken by a storm? In dark nights, in thick weather, which do not allow us to see the stars, a pilot could not make his course. He must then wander at a venture<sup>h</sup>, and land where he could. Homer makes Ulysses arrive in different coun-

<sup>c</sup> Theon. Alex. ad Arati phæn. p. 7.

<sup>d</sup> Odyss. l. 5. v. 272. & 275. &c.

<sup>e</sup> Ibid. v. 276. & 277.

<sup>f</sup> See Scheffer, l. 4. c. 6. p. 297. &c.

<sup>g</sup> Book. 4. chap. 2.

<sup>h</sup> See Virgil Æneid. l. 3. v. 200. &c.



tries; but it is always without this hero's dreaming of the climates in which he finds himself<sup>i</sup>.

We shall remark further, that the Greeks, in the ages of which I speak, wanted many machines, the use of which is indispensable in navigation. At the time of the Argonauts, they did not know anchors<sup>k</sup>. I even doubt whether they were known in the age of Homer. The Greek word which is used to mean an anchor properly so called, is not found in any of his poems. He has not borrowed any comparison from it. If we examined attentively the different tackling described by this poet, when he speaks of ships going either into harbours, or into unfrequented roads, there is nothing there to make us suspect that the Greeks used anchors. I know very well there are some passages in the Iliad and in the Odyssey, which they commonly translate *casting anchor*; but it is improper and without foundation<sup>l</sup>. The Greeks at that time only used, as to what appears, large stones to hold their ships. When Ulysses came to the road of the Lestrigons, he tied his ship to a rock with cables<sup>m</sup>. When that prince went from the port of the Phæacians, the rowers unloosed the cable which

<sup>i</sup> Odyss. l. 6. v. 119. &c. l. 9. v. 174. &c.

<sup>k</sup> Plin. l. 36. sect. 23. p. 741.; Arrian. Peripl. Pont. Eux. p. 121.

<sup>l</sup> The passages we speak of are found in the Iliad, l. 1. v. 436.; Odyss. l. 15. v. 497. & l. 9. v. 137. 'Εκ δ' εὐνάς ἔβαλον, --- οὐτ' εὐνάς βαλέειν. They translate these passages by *casting anchor*. The reason on which the ancient critics, such as Eustathius and Hesychius, support themselves to interpret εὐνή by *anchor*, is, say they, because εὐνάζω, which signifies *to sleep*, comes from εὐνή; for, add they, the immobility of a ship at anchor may very well be represented as a sort of sleep, especially in a poetic style. Διὰ τὸ ἀγκύρας ἐμβαλλομένης εὐνηθῆναι τὴν ναῦν, eo quod anchora dejecta, navis veluti dormiat. Without doubt, it is from this explication that the lexicographers have rendered the word εὐνή by *anchor*.

But I do not think that explication free from all criticism. I doubt whether one can say, even in a poetic style, of a ship at anchor, that she sleeps. For in what manner could they fix her? she is always rolling. Besides, could not we equally say of a ship fixed by cables to a rock, or held by large stones, that she sleeps, as they can say it of a ship held by anchors?

I think then that by the word εὐνή we ought not to understand *anchors*, such as the Greeks used afterwards, but large stones which served to hold the ships.

<sup>m</sup> Odyss. l. 10. v. 96.

held the ship by means of a stone bored through, to which she was tied <sup>a</sup>. It appears to me demonstrated, that at that time the Greeks had no knowledge of anchors, and, for want of that machine, they used large stones <sup>o</sup>.

There is greater reason also to think that these people did not use the sounding lead. Homer never speaks of it, and no other writers contradict his silence. We may judge, from these facts, of the dangers to which the Greek sailors were exposed. They could scarce know the depth of the sea, or know how many fathom it was, or be sure that the anchorage was good, &c. They ran the risk then of striking every instant. Besides, having no anchors, when they were surprised by a tempest near rocky coasts or sands, what must have been their situation? They were exposed to see their ship split, or at least aground every moment. The least accident they had to fear, was to drive considerably. They must often have been thrown out of their course; for I do not think the Greeks then knew the art of putting many masts above each other. They could not of consequence lie near the wind, and land; for it was not possible for them when they were once blown under the coast, to get from it, and bear off to sea; the upper sails being the only ones that could act upon such an occasion. Lastly, we do not see that they had coasting-pilots to direct them with respect to roads and harbours of difficult access, in the heroic ages. I make no doubt therefore that shipwrecks were very frequent in those times. Thus the ancients had pilots in such esteem, that history has not disdained to preserve the names of many of them. They name those who conducted Theseus's ship into Crete <sup>p</sup>.

There is a great deal said in the voyage of the Argonauts of Typhis who was pilot to those famous adventurers <sup>q</sup>.

<sup>a</sup> Odyss. l. 13. v. 77.

• It is for this reason that the word *λίθος* signifies, on many occasions, an anchor. See le trésor de H. Etienne, au mot *λίθος*.

<sup>p</sup> Plut. in Thes. p. 7.

<sup>q</sup> Apollod. l. 1. p. 42. & 43.; Hygin. fab. 14. p. 36.



They have not even forgot Anceus who replaced him in that business<sup>r</sup>. Lastly, we see that Homer speaks with the highest encomiums of Phrontis pilot of Menelaus's ship<sup>s</sup>.

It only remains now to speak of the maritime commerce of the Greeks in the heroic times. It could not have been very considerable ; these people at that time not being in a state to undertake voyages of great extent. I doubt if they knew the ocean ; for if they have spoke of it, it was as an inaccessible sea. It was not till 600 years after the expedition of the Argonauts that the Greeks durst enter upon it<sup>t</sup>. With respect to the Arabian gulf and the Red sea, they had not navigated them before Alexander.

Besides, for a nation to give itself up to maritime trade, it must be either, that the countries which they inhabit produce naturally great riches, or that it be supplied by their industry. The Greeks, in the times we are speaking of, were neither in the one nor the other position. Greece was not rich in minerals ; and its soil, to be fertile, required great cultivation. Its ancient inhabitants, destitute of arts and industry, were not able to get from the earth all that it could afford. Thus, they were, in general, very poor<sup>u</sup>. Besides, they had scarce any communication with each other<sup>x</sup>. Destitute of natural riches, and the means of supplying them, with what could these people be able to traffic ?

Independent of these reasons, other obstacles still opposed the progress of maritime trade in Greece. They had then no security on the seas. They were infested with pirates. Without speaking of the Carians, the Phœnicians, and the Tyrrhenians, the Greeks themselves were addicted to piracy, the moment that they became acquainted with the sea<sup>y</sup>. They were carried to it by

<sup>r</sup> Apollod. l. 1. p. 49. ; Hygin. fab. 14. p. 46.

<sup>s</sup> Odyss. l. 3. v. 282. &c.

<sup>t</sup> See Herod. l. 4. n. 152.

<sup>u</sup> Athen. l. 6. c. 4. p. 231. & 232.

<sup>x</sup> See *supra*, p. 309.

<sup>y</sup> See Odyss. l. 3. v. 72. &c. ; Thucyd. l. 1. p. 4. ; Strabo, l. 17. p. 1142.

that

that spirit of rapine and robbery, which animated them at land <sup>z</sup>. The trade of piracy was not infamous in the heroic times; on the contrary, they made it honourable <sup>a</sup>. Sovereigns themselves were of the number. Menelaus, in the *Odyssey*, does not blush to say to Pisi-stratus and Telemachus, who admired his riches, that they were the fruit of his maritime expeditions <sup>b</sup>. It was by this way that most of the Greek princes had amassed great riches <sup>c</sup>. We easily see what an injury such a licence must have been to maritime commerce, and how it must have interrupted it.

Minos passed in antiquity for the first who began to pursue pirates <sup>d</sup>. But it appears, that, in the time of the Argonauts, they took still more efficacious measures to suppress them. Plutarch reports, after an ancient author, that they had then made an order in Greece, which forbade any one to send to sea any ships which carried more than five men. Jason alone was excepted from this general law. On the contrary, they had given him an express commission to go to sea with an armed force to destroy pirates and robbers <sup>e</sup>.

If we could adopt the notions of the celebrated Bianchini, on the motives which occasioned the Trojan war, it would follow, that at that time the Greeks wanted to have a very extensive trade, and that, in general, navigation and maritime trade had been the principal object of the politics of these people. M. Bianchini, in effect, will have it, that the war of Troy had for its object, not the pretended rape of Helen, but the navigation and free trade of the *Ægean* and *Euxine* seas.

<sup>z</sup> See *supra*, p. 314. & 315.

<sup>a</sup> See Thucyd. l. i. p. 4. & 6.; Feith. antiq. Hom. l. 2. c. 9. p. 192. l. 4. c. 12. p. 498.

The northern nations formerly thought the same. They then looked upon piracy as a lawful way of acquiring riches. *Bibliothèque anc. & mod.* t. 2. p. 256. & 261. &c.

<sup>b</sup> L. 4. v. 90. &c.

<sup>c</sup> *Odys.* l. 3. v. 301. l. 14. v. 230. &c.

<sup>d</sup> Thucyd. l. i. p. 4.

<sup>e</sup> Clidemus, *apud* Plut. in *Thest.* p. 8.



Such was, according to him, the true motive which armed the Greeks against the Trojans. That expedition, adds he, was not determined by the destruction of the Trojan empire, but by a treaty of commerce advantageous to the Greeks <sup>f</sup>.

I do think I ought to stop to refute so singular a paradox, which would reduce the Iliad to a mere allegorical story in the oriental taste. We may freely put this system in the number of those which spring from a lively and fruitful imagination; but not having the least probability, finds itself absolutely contradicted by all the historical notions which remain to us about the object and events of the war of Troy.

<sup>f</sup> La istoria universale, deca 3. cap. 30. p. 452. &c.

## B O O K V.

*Of the Art Military.*

**T**HE epocha we are at present employed about, offers for the military art the same resources, as for laws, arts, and sciences. I shall further observe, that the following ages do not furnish us, till some time afterwards, with much more knowledge on all these objects. With respect to the military art in particular, it is certain, that from the heroic ages to the time of Cyrus, we perceive neither change nor progress in the manner of making war, among the people of whom I here trace the history. Thus what we are going to read may fix our ideas about the knowledge the Egyptians, the Asiatics, and the Greeks had in the military art, for a long course of ages.

## C H A P. I.

*Of the Egyptians.*

**E**Gypt, generally speaking, was never a warlike nation. More attentive to make the laws, arts, and sciences flourish, than to exercise her people in combats, the military virtues were not those which were cultivated with the greatest care. Thus it was not by the splendor of her arms that Egypt has attracted the attention of posterity. Yet it must be confessed, that she has produced some conquerors, whose exploits do not give place to any of the most celebrated heroes of antiquity.

Sesostris who ascended the throne about 1650 years before



fore J. C.<sup>a</sup>, has a just title to be put in this number. His reign is the epoch of the military glory of the Egyptians. This prince possessed with the highest ambition, proposed nothing less than the conquest of the universe<sup>b</sup>. He took the necessary measures to assure the success of his arms. His first care was to regulate the state of the troops. This object apparently had been neglected, or at least ill managed by his predecessors, since the ancients have regarded Sesostris as the author of the rules concerning discipline and the military service in Egypt<sup>c</sup>. It is for this reason I shall refer to his reign what the authors of antiquity have transmitted to us on this subject.

We perceive, that the maxim of the Egyptians was to keep on foot a numerous militia, divided into two bodies; that of the Calasires, and that of the Hermotybies. The one amounted to one hundred and sixty thousand men, and the other to two hundred and fifty thousand. The custom was to distribute these troops into the different provinces of the kingdom<sup>d</sup>. The soldiers had no pay, and were forbid to exercise any mechanic art<sup>e</sup>. But the state had provided abundantly for their subsistence. They assigned to each soldier twelve aruras of land exempted from all taxes and imposts<sup>f</sup>. They let it to farmers who made the most of it, and paid them a certain rent<sup>g</sup>.

<sup>a</sup> See *supra*, book 1. p. 10.

<sup>b</sup> Diod. 1. 1. p. 63.

<sup>c</sup> Arist. de rep. 1. 7. c. 10.; Diod. 1. 1. p. 105. & 106.

<sup>d</sup> Herod. 1. 2. n. 164. & seq.

<sup>e</sup> Id. ibid. n. 165. & 166.

<sup>f</sup> Herod. 1. 2. n. 168.; Diod. 1. 1. p. 85.

These twelve aruras equalled nearly nine acres Paris measure. The arura here spoken of was a superficial measure, which, according to Herodotus, was the square of one hundred Egyptian cubits, or ten thousand square cubits. The learned are well enough agreed, that the Derach of Cairo, which, according to Grævius, is one foot eight inches  $6\frac{2}{3}\frac{2}{3}\frac{2}{3}$  royal lines, is perfectly equal to the ancient Egyptian fathom, and that this measure has never been altered. By this account, the arura must have been 814 fathoms 28 feet 85 inches  $51\frac{2}{3}\frac{3}{4}\frac{7}{8}$  lines squared; and of consequence, 12 aruras equal 9777 fathoms 19 feet 16 inches  $36\frac{2}{3}\frac{8}{10}\frac{4}{4}\frac{4}{1}$  lines squared. The Paris acre is, we know, precisely 900 squared fathoms; thus nine acres equal 9300 squared fathoms. It is plain then, that 122 fathoms 16 feet 127 inches  $107\frac{1}{3}\frac{2}{4}\frac{7}{8}$  lines squared, and 12 Egyptian aruras equal nine acres Paris measure,

<sup>g</sup> Diod. 1. 1. p. 85.

It was from the Calasires and the Hermotybies that they drew the prince's guard. It was composed of two thousand men, who were relieved every year. During the year of service, they gave every day extraordinary to each soldier five pound of bread, two pound of meat, and about two or three pints of wine <sup>b</sup>. We may judge from this account, that a soldier had not only wherewithal to live, but he was even able to maintain a family. For the intention of the legislature was to encourage the marriage of the troops, reflecting, that the son was obliged to follow the profession of his father <sup>c</sup>.

As to military discipline, the ancients have transmitted to us few particulars on that article. They only acquaint us, that those who quitted their ranks, or were disobedient to their generals, were marked with infamy. Yet they could be restored if they repaired their fault by resolute and great actions. The maxim of the Egyptians was, That they should leave a soldier a way to re-establish his honour, and convince him, that he ought to be more sensible of that loss than of life <sup>d</sup>. For the military profession was in high consideration among these people. After the sacerdotal families, those whom they most esteemed, were, as in France, the families destined to arms <sup>e</sup>. We see further, that, in the Egyptian armies, the right was the post of honour <sup>f</sup>.

It results from what we have just read, that commonly the Egyptian forces amounted to four hundred and ten thousand men; but when the sovereign thought proper to augment his troops, or that it was necessary to recruit them, it was among the husbandmen that they took soldiers <sup>g</sup>. The history of Sesostris will prove to us, that they had sometimes recourse to that expedient.

The army which this monarch levied, answered to the

<sup>b</sup> Herod. l. 2. n. 168.

<sup>c</sup> Diod. p. 85.; Herod. n. 166.; Arist. de rep. l. 7. c. 10.; Diczarchus *apud* schol. Apollon. Rhod. l. 4. v. 272.

<sup>d</sup> Diod. l. 1. p. 89.

<sup>e</sup> Herod. l. 2. n. 168.; Diod. p. 85.

<sup>f</sup> Diod. l. 1. p. 77. & 78.

<sup>g</sup> Diod. l. 1. p. 33.



grandeur of his projects. It consisted of six hundred thousand foot, twenty-four thousand horse, and twenty-seven thousand armed chariots<sup>o</sup>, without mentioning a fleet of four hundred sail equipped on the Red sea<sup>r</sup>.

Sesostris having put his army in motion, conducted it to the south side, and fell immediately upon the Ethiopians. Having defeated them, he imposed for a tribute the obligation of bringing to him every year a certain quantity of gold, ebony, and ivory<sup>s</sup>. Returning afterwards to these countries, he passed into Asia, whilst his fleet coasted it. Every thing submitted to him. But it will be difficult to determine precisely to what point this conqueror carried his arms in that part of the world. If we would believe certain authors, Sesostris past the Ganges, traversed all the Indies, and came to the eastern ocean<sup>t</sup>. But this fact appears improbable. Herodotus bounds the extent of the conquests of this monarch, on one side, to the parts of Asia situated along the Arabian gulf, and on the other, to the eastern provinces of the same continent<sup>u</sup>; and the testimony of this author is of great weight in all that concerns events of that high antiquity. We may add, that the passage from Egypt to the eastern ocean appears absolutely impossible for such an army as that of Sesostris. With respect to Europe, the historians of antiquity agree in saying, that Thrace was the bounds of his conquests in that part of the world<sup>v</sup>.

For the rest, the expedition of this monarch will scarce afford us any light into the manner of making war in his time. The particulars are not known to us. We are ignorant of the means Sesostris used to reduce so readily that infinite number of nations of which the ancients speak. What we know, is, that at that time they made great use of armed chariots. They were the principal strength of their armies. We have already seen, that the Egyptian monarch had

<sup>o</sup> Diod. l. i. p. 64.

<sup>r</sup> Ibid.

<sup>s</sup> Ibid.; Herod. l. 2. n. 110.; Strabo, l. 16. p. 1114.

<sup>t</sup> Diod. p. 64.; Strabo, p. 1114.; Lucan. Pharsal. l. 10. v. 276.

<sup>u</sup> L. 2. n. 102. 103. & 106.

<sup>v</sup> Herod. n. 103.; Diod. l. i. p. 65.

twenty-seven thousand. It is also said in scripture, that they had a great number which Pharaoh raised to go in pursuit of the Israelites <sup>u</sup>. But this was not a custom peculiar to the Egyptians; it was common to all the people of antiquity.

We have read in the first part of this work, that most of the ancients attributed to Orus the invention of riding a horse; and that some nations, notwithstanding, did that honour to Sesostris <sup>x</sup>. I then said, that this opinion did not appear to me well founded. I shall not repeat here the reasons which determined me to reject it. I shall only add, that those who refer to Sesostris the art of riding, have probably interpreted tradition very ill. It says without doubt, that this prince had first thought of forming a body of cavalry. He had them in effect in his army. In the roll of the troops of Sesostris, Diodorus distinguishes expressly the cavalry from the armed chariots <sup>y</sup>. We remark the same distinction in the description the scripture makes of the forces collected by Pharaoh to oppress the Hebrews in their flight <sup>z</sup>. I think then we may reconcile the different relations of the ancients, by attributing to Sesostris the institution of cavalry in the Egyptian armies. It is perhaps to this novelty, that he was indebted for the quickness of his exploits.

Be this as it will, the rapidity of the conquests of this monarch prove, that most of the people he attacked were very ignorant in the military art. There were neither cities nor fortresses to stay the progress of the conqueror <sup>a</sup>. We cannot doubt of this, when we read the names of the countries subdued by Sesostris. If this prince had met in his career some places fortified a little, and if they had understood the art of defending them, he would have employed more than nine years in subduing so great a number of na-

<sup>u</sup> Exod. c. 14. v. 7.      <sup>x</sup> Book 5.

<sup>y</sup> L. 1. p. 64.

<sup>z</sup> All Pharaoh's horses, his chariots, and his horsemen. Exod. c. 14 v. 23.

We likewise find in the ancient versions the words, ἵπποι, καὶ ἀναβάντες, *equus & insidens equo*.

<sup>a</sup> See part I. book. 5.



tions. Yet it is to this short space that the ancients have limited the duration of his expedition<sup>b</sup>; and the fact is very probable. What we know of the conquests of Alexander, Attila, Gengiscan, Tamerlane, &c. shew with what facility a conqueror could anciently over-run the world.

The ignorance they were in at that time of the art of defensive war, made it very easy to sub sist an army as numerous as that of Sesostris. I have said elsewhere, that the gaining of a battle opened to the conquerors an immense country. They seized on all, and the places abandoned by the conquered people enabled them to maintain and sub sist their troops<sup>c</sup>. Though it is very probable, that the army of Sesostris was divided into many corps, which marched and acted separately; yet it is said, that for want of provisions it was thought they would have perished in Thrace, and that the conqueror was obliged to return immediately<sup>d</sup>. This circumstance leads me to think, that Sesostris found in these countries a resistance which he had not experienced elsewhere. The fact is so much the more probable, as the Thracians have always passed for one of the most warlike nations of antiquity.

It does not appear, that Sesostris took any measure to preserve to his successors the vast countries which had submitted to him<sup>e</sup>. Satisfied with having conquered innumerable nations, this monarch did not think on the means of securing his conquests. Thus they had no consequences. Their duration may be compared to their rapidity. The provinces which the Egyptians came from conquering, were as soon lost as acquired: the vast empire formed by Sesostris did not descend to his posterity.

If this prince neglected to secure his conquests, he does not deserve the same reproach with respect to his hereditary dominions. On his returning to Egypt, he employed the leisure which peace afforded him, to secure his kingdom from all invasion. With this view, he fortified the side of Egypt which looks to the east, and where the access was easy, by

<sup>b</sup> Diod. l. i. p. 65.

<sup>c</sup> Part i. book 5.

<sup>d</sup> Diod. l. i. p. 65.

<sup>e</sup> Justin. l. i. c. 1.

a wall continued to the length of fifteen hundred stadia <sup>c</sup>. This rampart extended from Pelusis situated on one of the mouths of the Nile, to Heliopolis, built at the place where the river begins to divide itself <sup>s</sup>. Sesostris caused also to be executed many other works which contributed as much to the security as to the utility of his kingdom. He had cut a great number of canals along the Nile. These works changed the face of Egypt. Before, it was a country open on all sides, which might be entirely over-run by horses and chariots. But, by means of this number of canals, Egypt became an intrenched country, and Sesostris rendered it almost impracticable for carriages, and even for horses <sup>a</sup>.

From the reign of this monarch, to that of Sefac, that is to say, for near seven hundred years, it is not seen that Egypt signalized itself by any military enterprise. It seems that the spirit of glory and of conquest which had animated them under Sesostris, was extinguished in a very little time. According to some authors, we should throw the blame on this prince himself. Apprehending, say they, that the taste for war might inspire his subjects with sentiments of independence, he endeavoured to find out ways to soften their manners, and enervate their courage. They assure us, that he succeeded only too well in bringing about this fatal change, and that the Egyptians soon degenerated <sup>i</sup>. This policy of Sesostris was founded on the knowledge that prince had of the character of the people he had to govern. They assure us in effect, that the ancient sovereigns of Egypt had been

<sup>c</sup> From 62 to 63 French leagues.

<sup>s</sup> Diod. l. i. p. 67.

<sup>a</sup> Herod. l. 2. n. 108.; Diod. l. i. p. 66. & 67.

If we believe Herodotus, Sesostris made Egypt absolutely impracticable for horses: but this sentiment does not appear exact; for it would follow, that they would have neglected to breed horses. Now, on the contrary, we see by many passages of scripture, that, under the Jewish kings, there must have been a prodigious number of horses in Egypt, and even that they were very much esteemed. See 1 Kings c. 10. v. 28. 29.; 2 Chron. c. 12. v. 3.; Isaiah c. 36. v. 9.; Cant. c. i. v. 8.

It is better to say with Diodorus, that the prodigious number of canals made Egypt very difficult to go over in carriages, and almost inaccessible with cavalry.

<sup>i</sup> Nymphodor. *apud* scholiast. Sophocl. Cœdyp. Colon. v. 318. p. 283. edit. H. Stephan. 1568.



exposed to frequent revolts, and that at all times they had taken measures to defend themselves, and to prevent conspiracies and factions\*. Sesostris without doubt thought, that he had need of the same precautions, and put them in practice. I shall have occasion to return to this policy of the Egyptian monarchs in the third part of this work<sup>1</sup>.

## C H A P. II.

### *Of the people of Asia.*

**WE** have seen in the first book, that we are totally ignorant of the events which happened in the Assyrian empire during the course of the ages about which we are employed at present. It is, of consequence, impossible to give any idea of the state in which the military art then was in the greatest part of Asia. We can only speak of the nations who inhabited the western coasts of that part of the world. The invasion of Palestine by the Israelites will furnish us with some details and some reflections on the manner in which they made war in these countries, in the time of Moses, of Joshua, and the Judges. I could also comprehend under this present article, the expedition of the Greeks to Troy. Yet I shall only speak of it in the chapter of Greece, lest I should fall into repetitions which it will be impossible to avoid.

Many circumstances may have already given room to remark, that, among all the nations of antiquity, there have been few whose progress in the arts and sciences has been so rapid as those of the first inhabitants of Palestine<sup>m</sup>. The history of the wars they had to maintain against the Israelites, will not give us a very great idea of their skill in the military art, if we did not know that these events

\* Diod. l. i. p. 102; Plut. t. 2. p. 180. A.

<sup>1</sup> Book 2. chap. 2.

<sup>m</sup> See part 1. book 4. chap. 2. art. 1.; part 2. book 2. c. 4. art. 2. p. 159. book 4. c. 2. p. 294.

had been directed by the decrees of Providence. The Lord had struck all the people of these districts, with the spirit of terror and blindness<sup>a</sup>. It is not then to their cowardice or their ignorance, that we should impute the rapid and continued success of the Hebrew people. It appears on the contrary, that these nations were very warlike, and that they were not without the knowledge which could then be had of the military science.

We see immediately, that the people of Palestine had many horses in their armies<sup>b</sup>, a method only known to polished nations. They had also a great number of chariots of war<sup>c</sup>, and knew perfectly the art of using them. The scripture observes, that the tribe of Judah could not reduce the inhabitants of the valleys, because they had a great number of chariots armed with scythes<sup>d</sup>. They then were warlike people, used to arms and combats.

I have had occasion to insist often of the ignorance in which they were formerly in the art of fortifying and defending cities. I have just said, that probably Sesostris had not met with any fortified places in his expeditions. The invasion of this prince leads us to make some reflections on the inhabitants of Palestine. It is in effect in these countries that history offers an example of fortified places. Moses tells us, that the cities there were defended by very high walls, and by gates strengthened with bars and posts<sup>e</sup>. It appears further, that they also knew, in these countries, the use of machines proper to overthrow the ramparts of the cities which they besieged<sup>f</sup>. Yet it is not seen, that either in the wars undertaken by Moses, or in those conducted by Joshua and his successors, there is any mention of sieges undertaken, and carried on in form, although they very often speak of the taking of cities. Here is what several passages learn us touching the manner which they then used to take a place. They laid

<sup>a</sup> Exod. c. 23. v. 7.      <sup>b</sup> Joshua, c. 11. v. 4.

<sup>c</sup> Ibid.      <sup>d</sup> Judg. c. 1. v. 19.

<sup>e</sup> Deuter. c. 3. v. 5.      <sup>f</sup> Ibid. c. 22. v. 19.



in ambush; the army afterwards advanced against the city: the besieged went out to give battle, they feigned to give way; and when they had drawn them to a certain distance, the corps placed in ambush marched to the town, and finding it without defenders, they seized on it and set it on fire. On this signal, the army which gave way, faced about and charged the enemy. The troops which were become masters of the city, came out of it then, and finished the defeat \*.

I fairly confess, I do not comprehend such a manœuvre. How can one suppose in effect in the besieged, so little forecast, as not to leave in the place a body of troops sufficient to guard it against a sudden assault? Besides, how could one imagine that they should even forget to shut the gates? This precaution so very simple, is sufficient to put a city out of the reach of such enterprises. But I have already said, all these events only happened by the special order of Providence.

A fact that appears to me almost as astonishing, is the security and tranquillity of the inhabitants of Palestine on the march and stay of the Israelites in their neighbourhood. We do not see that for forty years, that the Hebrew people over-ran these countries, the neighbouring nations were much disturbed at it. The greatest part of them were not informed of the design of the Israelites, till they saw themselves ready to be attacked. In what part of the known world, could a troop of more than a million of souls<sup>†</sup> at this day assemble themselves, without alarming the neighbouring states, or without their sending to demand the reason of their projects? It may be answered, that, in these remote times, there was none or very little intercourse among these nations. Scarce did the neighbouring states keep up any relation with each other. Thus a nation scarce knew the designs formed against it, till the moment they saw the enemy at their gates. The people

\* Josh. c. 8. v. 12. &c. ; Judg. c. 20. v. 29. &c.

† See Numb. c. 1. v. 45. & 46.

were always surpris'd, and of consequence almost always conquer'd.

The history of the wars which are spoken of in the books of Moses, of Joshua, and Judges, proves the truth of what I have already often repeated, that the gaining of a battle was commonly decisive in the ages I am speaking of. We there see wars finish'd often in a month, sometimes even in two or three days. It was because they did not then know the art of making use of fortified places. There, of consequence, remained no way to the conquer'd to defend their liberty, and to agree with the conqueror after the first defeat \*.

I have nothing particular to say of the manner in which the Hebrews and the inhabitants of Palestine were arm'd at that time. They us'd all the sorts of arms which are known to have been us'd among all the people of antiquity. I shall remark, in finishing this article, that then many people went to war adorn'd with all their most rich and valuable things. The troops of Midian wore rings, pendants, bracelets, and collars of gold. Their camels were adorn'd with studs, chains, and plates of the same metal †. This custom, as to what appears, has always subsist'd among the eastern people, and time has not abolish'd it ‡.

### C H A P. III.

#### *Of the Greeks.*

**T**HE first wars spoken of in the Grecian history, are neither sufficiently interesting, nor instructive enough to deserve a particular attention. They were only, to speak properly, the incursions of barbarians, who had no other view but to ravage the lands, make slaves, carry off the flocks,

\* See part. i. b. 5. † Numb. c. 31. v. 50. ; Judg. c. 8. v. 21. 24. & 26.

‡ It still subsists in all the countries of Asia.



&c.<sup>a</sup>. Their armies were very small, and they had not far to go to meet with their booty. They neither knew how to fortify their frontiers, nor make war in the flat country. One battle commonly decided the quarrel<sup>b</sup>: nothing could then stop the conqueror. Anciently the cities in Greece were all open; no works defended the approach; they were not even inclosed with walls<sup>c</sup>. A war was then very soon finished. But hostilities would recommence without ceasing; the people were never at rest; they were always armed. Thus they had formerly neither peace nor security in Greece<sup>d</sup>.

History speaks, it is true, of a citadel built in Athens by Cecrops<sup>e</sup>. They pretend, that Cadmus did as much when he laid the foundation of Thebes<sup>f</sup>; and Danaus used, say they, the same precaution when he saw himself master of the throne of Argos<sup>g</sup>. But, according to all appearances, the fortresses of Athens, Thebes, and Argos, were inconsiderable. I presume that they rather served to keep the inhabitants of these cities in obedience, than defend them against the attacks of their enemies.

Experience instructs, and time is a great master. The Greeks at last saw the necessity of inclosing their cities, to put them out of the reach of pillage and invasions. Amphion, who reigned at Thebes about 1390 years before Jesus Christ, was, say they, the first who thought of providing for the security of his capital. He surrounded it with walls, flanked with towers at proper intervals<sup>h</sup>. This manner of fortifying places, although simple, was nevertheless the best that could be imagined at that time. The jutting towers defended the flank and the parapet of the walls; besides, they procured to the besieged the advantage of overlooking their enemy from a superior place, and at the same time of being less exposed to their strokes.

<sup>a</sup> See Feith. *Antiq. Hom.* l. 2. c. 7. sect. 2.

<sup>b</sup> See Pauf. l. 9. c. 9.

<sup>c</sup> Thucyd. l. 1. p. 4.; Arist. de rep. l. 7. c. 11. t. 2. p. 438. D.

<sup>d</sup> Thucyd. *loco cit.*

<sup>e</sup> *Supra*, b. 1. ch. 4. art. 1. p. 17.

<sup>f</sup> *Ibid.* art. 4. p. 40.

<sup>g</sup> *Ibid.* art. 2. p. 35.

<sup>h</sup> Homer. *Odyss.* l. 11. v. 262. &c., Hygin. *fab.* 69. p. 120.

It is probable that many princes of Greece soon imitated the example of Amphion. But the discussion of this fact is somewhat unnecessary. I need not give an account of the events which relate to it. I go then to the history of the war of Thebes, the most memorable that happened among the Greek people in the heroic times.

Œdipus, whose history is too well known for me to stop to give it, had left his crown to his two children, Æteocles and Polynices. These princes, instead of dividing it, agreed to reign a year each by turns. Æteocles, as eldest, ascended the throne first. The year being expired, Polynices demanded of him the sceptre. But Æteocles had found too many charms in wearing it, and refused to resign it. Polynices, enraged, retired to Adrastus King of Argos. He gained the friendship of that prince, and obtained his daughter in marriage, with the promise of immediate succours to help him to ascend the throne. Adrastus, in effect, began by sending an ambassador to represent to Æteocles the rights of Polynices. Æteocles joining perfidy to injustice, would have assassinated the deputy of Argos. Adrastus, enraged at this scandalous treason, from that time looked upon the quarrel of Polynices as being personal to him, and prepared himself to take vengeance. He levied troops, leagued with many princes, and engaged them to march with him against Æteocles.

Æteocles foreseeing, without doubt, that he should soon be attacked, had neglected nothing for his defence. He had procured allies, and had collected together a numerous force<sup>1</sup>. The armies, on both sides, having taken the field, met on the borders of the river Ismene. The Thebans gave way on the first shock, and fled into their city. The conquerors immediately formed the siege of it<sup>2</sup>. This is the first that is spoken of in the Grecian history.

The Greeks were then very ignorant of that part of the military science. They did not know how to conduct an at-

<sup>1</sup> Apollod. l. 3. p. 150. & 153.; Diod. l. 4. p. 308. &c.; Paus. l. 9. c. 9.

<sup>2</sup> Apollod. p. 154.; Paus. l. 9. c. 9.



tack<sup>1</sup>. These people only endeavoured, as to what appears, to shut up the besieged, and to hinder them from coming out of the town; and they even did this ill enough. We may judge this from what we find in ancient authors about the dispositions the Argives made to become masters of Thebes. That city had seven gates. The besiegers, of consequence, divided their troops into seven divisions, which they placed before each port<sup>m</sup>. We do not find that they then knew the art of drawing lines of circumvallation.

It might be imagined, that at the times of which I speak, the Greeks practised the escalade, that is to say, that to force a place, they applied to the walls a great number of ladders, on which they caused many files of soldiers to ascend. We might even go so far as to think, that these people had, at that time, invented some machines proper for the defence of besieged towns. This sentiment is founded on the circumstances of the death of Capaneus, who, willing, say they, to scale the walls of Thebes, fell down, struck with thunder<sup>n</sup>. But we shall see in the sequel, that probably the escalade was not used among the Greeks, even at the time of the siege of Troy, and still less machines of war. I think then the siege of Thebes was conducted nearly like that of Troy; that is to say, that the besiegers, intrenched in their camp before the city, formed the blockade. The only object, at that time, was, as I have already said, to hinder the besieged from making sallies, to shut them up, and to cut off their succours and provisions. Such was formerly the manner of making themselves masters of a place.

The conduct of the besieged answered to the attack of the besiegers. It is said that Æteocles had divided his garrison into as many bodies as the army of the enemy<sup>o</sup>. The de-

<sup>1</sup> Paus. *loco cit.*

<sup>m</sup> Apollod. l. 3. p. 153.; Æschyl. Sept. *ad Theb.* v. 42. 55. 56.; Eurip. Phœniss. act. 3. v. 744.; Paus. l. 9. c. 8.; Philostrat. Imagin. l. 1. c. 6.

<sup>n</sup> Apollod. l. 3. p. 155.; Eurip. Phœniss. act. 4. v. 1179. &c.; Diod. l. 4. p. 309.; Paus. l. 9. c. 8.

<sup>o</sup> Æschyl. Sept. *ad Theb.* v. 57. & 58.; Apollod. l. 3. p. 154.; Eurip. Phœniss. act. 3. v. 744. &c.

fence of a town, at that time, consisted in making frequent sallies to try to force the camp of the besiegers, or at least to intercept their convoys and starve them<sup>r</sup>. They had frequent fights between the two parties<sup>s</sup>. It is to this ignorance in the art of attacking places, that we must attribute the extraordinary length of certain sieges mentioned in antiquity.

As that of Thebes would have held out a long time, the two brothers, Æteocles and Polynices, took the resolution of terminating their quarrel by a single combat. They fought under the walls of the city, in the sight of both armies, and were both killed.

Let us stop here a moment to reflect on the idea the ancients had of the love and respect which they thought due to their country. Nothing was more unjust or more blameable than the proceedings of Æteocles against his brother. Yet of all the ancient authors who have had occasion to treat this subject, there is not one who has not judged Polynices unworthy the honours of sepulture, for having troubled the repose of his country, and brought into the heart of it an army of strangers<sup>r</sup>.

The death of the two brothers did not put an end to the war. Creon, uncle of the two princes, seizing on the sovereign authority, animated the Thebans to revenge the death of their king. The success answered to their firmness and courage. They made so well a conducted assault, that they overthrew their besiegers, forced their camp, and cut them in pieces. Adrastus, say they, was the only one who escaped from this total defeat<sup>r</sup>. The advantage which the Thebans obtained on this occasion cost them very dear; and it is since a proverb to say, *A Theban*, or *Cadmean victory*, to mean an action where the conqueror was at least as ill treated as the conquered<sup>s</sup>.

<sup>r</sup> See *Iliad*. l. 18. v. 509. &c.

<sup>s</sup> See *infra*, p. 354.

<sup>r</sup> Æschyl. *Sept. ad Theb.* v. 1021. &c.; Sophocl. in *Antig.* v. 204. &c.; Eurip. in *Phœniss.* v. 1280.

<sup>s</sup> Paus. l. 9. c. 9.

<sup>r</sup> Herod. l. 1. n. 166.; Diod. l. 11. p. 412. & 413.; Paus. l. 9. c. 9. See in Erasmus's adagies, *Cadmea victoria*.



The first war of Thebes was soon followed by a second, occasioned by the barbarous proceedings of Creon. The Argives, in retiring, had left the country all covered with their dead. We know what ideas the ancients had with respect to dead bodies that remained without sepulture. Adrastus then sent ambassadors to Creon, to demand leave to bury his soldiers. Creon had the inhumanity to refuse it. Adrastus penetrated with grief, implored the assistance of the Athenians. They were then governed by Theseus. This prince, sensible of the rights of religion and humanity, marched in person against Thebes, and forced Creon to let Adrastus do the last honours to his soldiers. Some pretend, it was by means of having gained a battle <sup>u</sup>: others, on the contrary, say, it was by means of a truce <sup>x</sup>. This is even the first treaty which is said to have been made for taking away the dead <sup>y</sup>. We may say on this subject, that anciently to demand such a permission was to own being conquered.

I shall not enter into a detail of the war which the children of those princes who had perished before Thebes, recommenced ten years after the first. That event does not furnish any particular instruction. I shall only say, that this expedition ended with the taking of Thebes, and that the conquerors destroyed it entirely <sup>z</sup>. I hasten to come to the war of Troy. That enterprize, famous on many accounts, deserves all our attention. The circumstances of it are most proper to let us know how they then made war in Greece and Asia Minor.

No one is ignorant that it was the rape of Helen which determined the Greeks to carry their arms before Troy. This outrage, to speak properly, only interested Menelaus and Agamemnon: but these two brothers finding themselves, at that time, the two most powerful princes of

<sup>u</sup> Herod. l. 7. n. 27.; Isocrat. encom. Helen. p. 310.; Paneg. p. 75.; Euripid. suppl. v. 591.; Apollod. l. 3. p. 157.; Paus. l. 1. c. 39.

<sup>x</sup> Plut. *in* Theb. p. 14. A.

<sup>y</sup> Philocor. *apud* Plut. *loco cit.*; Plin. l. 7. sect. 57. p. 416.

<sup>z</sup> Apollod. l. 3. p. 159.

Greece, engaged all the nation to espouse their quarrel<sup>a</sup>. Yet there had already been some signs of animosity between the Greeks and Trojans. Tantalus, father of Pelops, and great-great-grandfather of Agamemnon and Menelaus, had carried away, or caused to be destroyed, Ganymede, great-uncle of Priam. Thus it may be said, that Paris, great-nephew of Ganymede, took away Helen by way of reprisal, against Menelaus great-great-grandson of the ravisher of his great-uncle. It was not therefore difficult to represent to the Greeks that attempt as an injury done to the whole nation. This motive determined these people to declare war against the Trojans<sup>b</sup>.

The preparatives were very long. There elapsed about ten years between the taking away of Helen and the departure of the Greeks. We ought not to be surprised at it. There had not been attempted at that time such an enterprize in Greece. This is the first time that the nation had leagued in a body to make war<sup>c</sup>. They would therefore assemble considerable forces. They must moreover equip a fleet. We must not therefore be surprised, that the preparations for that armament lasted ten years. That time was employed to unite the forces of the different princes of Greece, and to build twelve hundred ships to transport their army. Let us add, that the Greeks, going into a very distant country, had occasion to take many precautions. They ought not, in effect, to expect other resources in Asia, than those which they could procure by the sword<sup>d</sup>. The whole forces of Greece assembled amounted to near a hundred thousand men<sup>e</sup>: a small army confi-

<sup>a</sup> It was not by force nor fear that the princes of Greece followed Agamemnon and Menelaus before Troy, as Thucydides pretends, l. i. p. 7. Homer says the contrary very plainly, *Iliad*. l. i. v. 157. & 158. See also Paus. l. 3. c. 12.

<sup>b</sup> Herodotus, l. i. *init.* from an ancient tradition makes the subjects of hatred between the Greeks and Asiatics ascend much higher. But I confess, that I find no relation between the facts he alleges, and the motive of the expedition of the Greeks to Troy

<sup>c</sup> Thucyd. l. i. p. 3.

<sup>d</sup> *Ibid.* p. 9.

<sup>e</sup> I take the calculation of Thucydides, p. 9. See also Meziriac *ad* epist. Ovid. t. 2. p. 319.



dering the number of kings and nations that were entered into that league <sup>f</sup>.

The time which the Greeks had employed to prepare their armament, had given to the Trojans time to put themselves in a disposition to give them a good reception. Priam had raised numerous forces, and was strengthened by the succours of the most powerful princes of Asia. His national troops might have amounted to fifty thousand men <sup>g</sup>. But those of his allies were much more considerable. As to the fortifications of Troy, they consisted of an inclosure of walls, flanked with towers of wood <sup>h</sup>, and of rails before the gates <sup>i</sup>. It is very surprising, that that city was not encompassed with a ditch. We see Patroclus, after having repulsed the Trojans, after a smart encounter, ascend immediately on to the walls of Troy <sup>k</sup>; an action which the poet certainly would not have supposed, if he had had to have leaped over the ditch, or at least he would have explained it. This fact makes me also think, that the walls of Troy were only made of earth. We are, in effect, obliged to give to these sort of works a good deal of slope, otherwise all would fall down. It was then by favour of the slope that Patroclus suddenly mounted the walls of Troy: for if it had been by the help of a ladder, Homer, who is so exact to give details, would not have omitted that circumstance <sup>l</sup>.

After

<sup>f</sup> Thucydides, *ibid.* pretends that Greece could have furnished a greater number of troops; but the difficulty of subsisting them was the cause, says he, that they did not carry a greater number. This reason appears to me of no weight. I am persuaded that the Greeks brought into the field all the forces they could raise; and if their army was only an hundred thousand, it was because Greece could furnish no more at that time.

<sup>g</sup> *Iliad.* l. 8. v. 562.

We should not mind the discourse of Agamemnon, *Iliad.* l. 2. v. 126. &c. where he advances, that if the Greeks were placed at table, ten and ten, and they took for each ten a Trojan for a cupbearer, there would be more tens than were wanted. This is an exaggeration that the poet puts in the mouth of Agamemnon, to encourage the Greeks, and undervalue the Trojans.

<sup>h</sup> See Virgil. *Aeneid.* l. 2. v. 460. &c.

<sup>i</sup> *Iliad.* l. 3. v. 153. l. 21. v. 537.

<sup>k</sup> *Ibid.* l. 16. v. 702.

<sup>l</sup> The expression Homer uses to paint this action of Patroclus, suffices, as far

After a long and difficult navigation, the Greeks landed at the promontory Sigeus. The descent was not made without opposition from the Trojans. They gave them a bloody combat. The Greeks were victorious. They made good their landing; established themselves on the coast; formed their camp, and intrenched themselves <sup>m</sup>.

I know not how to define the enterprize of the Greeks against Troy. They proposed to themselves to take that city; yet I see no plan, no design in their conduct. We do not find in the recital the ancients have made of that famous event, any circumstance which characterizes a siege. We do not see the Greeks form any dispositions to approach the place, and still less to attack it. They do not open trenches; they do not make use of the sap, nor even of the escalade. As to machines of war, Homer never speaks of any; he, who, on other occasions, is so full in treating of every thing that concerns the art-military. Lastly, it appears that the Greeks had not even taken the precaution of reconnoitring Troy. Chance alone had shewn to them the weak or strong parts of the town <sup>n</sup>.

It is equally difficult to discover, in their operations before Troy, the blockade of a city. They did not draw lines of circumvallation, they did not dispose a body of troops round the place; in a word, they did not make any of the manœuvres, or conduct any of the works proper and necessary to shut up the besieged in their walls. Troy was never invested. The proof is, that, during the ten years the Greeks were incamped under its walls, we do not find that they ever wanted provisions. But farther, the foreign succours which came to the Trojans entered freely into the town. The camp of the Greeks was very distant from it <sup>o</sup>. The space was so great, that the armies had more ground than

far as I think, to prove the sentiment I advance. He says, that this hero ascended ἐπ' ἀγκῶνος τεύχεος.

Let us observe further, that Homer, on another occasion, gives the name of *wall* to a simple rampart of earth. *Iliad*. l. 20. v. 145.

<sup>m</sup> Thucyd. l. i. p. 9.

<sup>n</sup> See *Iliad*. l. 6. v. 435.

<sup>o</sup> *Iliad*. l. 3. B. v. 318. &c. l. 5. v. 791. & *passim*. See also Strabo, l. 13. p. 893.



was necessary to range themselves on both sides in the order of battle. Thus there is no mention in the *Iliad*, but of combats which the two parties engaged in daily. The Trojans advanced very far from their walls. The Greeks came out of their intrenchments, and went to meet them in the plain. It was then that they joined battle. Let us represent to ourselves two armies, one incamped under the walls of a place, and the other intrenched at a great distance, coming out reciprocally, and we shall have a very just idea of the position of the Greeks and Trojans. We shall very easily comprehend how Troy might resist for ten whole years the efforts of all Greece assembled before its walls. The forces were nearly equal; and there had been, to speak properly, no attacks made by the Greeks. They were at that time entirely ignorant of the art of forming sieges; and if they became at last masters of Troy, it was only by means of a gross stratagem<sup>p</sup>, and which had not yet succeeded but by a notorious treason<sup>q</sup>.

We must then lay aside all ideas of a siege; it would be very improper to characterize so the expedition of the Greeks before Troy. These people, as we have just seen, had then no notion of that part of war. Let us only examine their knowledge with respect to other objects of the military art.

I begin by incampments; and I say, that that art was not unknown to the Greeks in the heroic times. The disposition of their camp before Troy, appears in general well enough ordered. The circumference was considerable; for it is said, that not only the troops went into it, but they also shut up there all their fleet. These people at that time used to draw their ships on land, when they knew

<sup>p</sup> This is what we ought to think of the famous wooden horse, and this is also the idea Homer has given us of it. *Odyss.* l. 4. v. 272.

In vain will some writers, greatly posterior to this poet, find in this circumstance, the image of a machine of war proper to overturn the walls of a city. The silence of Homer on this head confutes all their conjectures. See also *Bannier, explicat. des fabl. t. 7. p. 280.*

<sup>q</sup> It appears plain enough to me, that Æneas and Antenor betrayed their country to the Greeks. See *Dionys, Halic. l. 1. p. 37.*; *Dictys. Cret. l. 4. c. 22.*; *Paus, l. 10. c. 27. p.*

that they were not to use them for some time <sup>r</sup>. The promontory Sigeus, where the Greeks had landed, being found too narrow to range in front the twelve hundred ships which composed their fleet, they disposed them into two lines. Their ships which had been landed first, were advanced towards the city, and made the first rank. They put in the second those which came the last. They almost touched the sea <sup>r</sup>.

The troops incamped in the interval formed by these two lines <sup>r</sup>. In the centre, they left a large square for the sutlers. They rendered justice in the same place. They also raised there altars destined to the worship of the gods <sup>u</sup>. The army marched under different chiefs, of whom Agamemnon was the generalissimo. Each chief had his quarter marked and distinct <sup>x</sup>. Lastly, the camp of the Greeks was intrenched, as well to secure their ships from the attacks of the enemy, as not to be surprised themselves by the Trojans who often came to insult them even to their very tents. These intrenchments consisted in a rampart of earth, flanked from space to space with towers of wood <sup>y</sup>. The work was defended by a large and deep ditch lined with palisadoes. They had there made different ports, that the troops might go in and out easily <sup>z</sup>.

The army incamped under tents, or rather under barracks, such as Homer describes that of Achilles <sup>a</sup>. They kept an exact guard. The Greeks not only used to place

<sup>r</sup> See *supra*, b. 4. ch. 4. p. 328.

<sup>r</sup> *Iliad*. l. 14. v. 30. &c. l. 9. v. 43. & 44.

<sup>u</sup> *Ibid*. l. 15. v. 652.

<sup>u</sup> *Ibid*. l. 11. v. 805. &c. compare it with l. 8. v. 222. &c.

<sup>x</sup> *Iliad*. l. 8. v. 222. &c.

<sup>y</sup> The proof that Homer meant only a rampart of earth, and wooden towers, is, that the whole work was finished in a day. l. 7. v. 475.

Farther, we see Sarpedon, on a certain occasion, forcing the Grecian camp, takes hold of one of the battlements of the wall in question, and pulls it with all his strength. The battlement gave way to the strength of the hero; he prevailed by throwing down a part of the wall, in which he made a breach wide enough to receive many in front. l. 12. v. 397. &c.

Homer certainly would not have allowed of such a fiction, if the wall built by the Greeks had been of stone work.

<sup>z</sup> *Iliad*. l. 7. v. 436. &c. l. 12. v. 36.

<sup>a</sup> *Ibid*. l. 24. v. 448. &c. The poet often calls these barracks *horfes*. *Ibid*. v. 471. & 673.



centinels, but even to establish advanced guards<sup>b</sup>. Homer remarks the neglect of this precaution by the Trojans, as a sign of their want of discipline<sup>c</sup>. They also used to light up great fires during the night<sup>d</sup>. They took that opportunity to send their spies to examine the proceedings of the enemy<sup>e</sup>.

We see that the Greeks, in the heroic times, were armed nearly in the same manner as the greatest part of the people of antiquity. They had for offensive arms a club, a hatchet, a sword, arrows, a javelin, and a sling<sup>f</sup>. Let us add to this the pike which they used in two different manners; for sometimes they threw it at a distance like a javelin<sup>g</sup>, and sometimes they used it like a sword to fight near and hand to hand<sup>h</sup>. If we refer to the writers of antiquity, it is from the Cretans that the Greeks had learned the use of arrows<sup>i</sup>. These people were even said to have invented the sword<sup>k</sup>. It is not easy to explain the manner in which the Greeks carried this last arm. As far as one can conjecture, it was suspended by a sort of belt which went over both their shoulders. This belt must have been like a porter's sling; it was fastened by means of a hole which clasped before, below the cuirass<sup>l</sup>. The sword rested against the thigh<sup>m</sup>.

The defensive arms were the shield, the cuirass, the helmet, and buskin-boots of metal to guard the thighs<sup>n</sup>. Herodotus pretends that the Greeks had received from the

<sup>b</sup> L. 9. v. 66.

<sup>c</sup> L. 10. v. 416. & 417.

<sup>d</sup> L. 8. v. 662.

<sup>e</sup> L. 10. v. 204. &c.

<sup>f</sup> L. 13. v. 716. 599. 612. l. 15. v. 711. l. 7. v. 141.

The Greeks did not think much of the troops which used slings. *Xenoph. Cyrop.* l. 7. p. 149.; *Q. Curt.* l. 4. c. 14. p. 232. Let us remark, that Homer never gives one to his heroes.

<sup>g</sup> *Odyss.* l. 8. v. 229.

<sup>h</sup> *Iliad.* l. 2. B. v. 50. See *Strabo.* l. 10. p. 688. & 689.

<sup>i</sup> *Diod.* l. 5. p. 282.; *Pauf.* l. 1. c. 23.

<sup>k</sup> *Diod.* l. 5. p. 382.; *Isidor. origin.* l. 14. c. 6.

<sup>l</sup> *Iliad.* l. 16. v. 135. l. 4. v. 132. & 133.; *Odyss.* l. 2. v. 3.; *Hesiod. Scut. Hercul.* v. 221. &c.; *Virgil Æneid.* l. 8. v. 459.

<sup>m</sup> *Iliad.* l. 1. v. 190. l. 5. v. 516.; *Odyss.* l. 9. v. 300. l. 11. v. 48.; *Virgil. Æneid.* l. 10. v. 786. &c.

<sup>n</sup> *Feith. antiq. Hom.* l. 4. c. 8.

Egyptians the shield and the helmet <sup>3</sup>. In the beginning these arms were only made of the skins of animals <sup>4</sup>; they learned afterwards to make them of metal.

I have nothing to say in particular of the ancient Greek helmets; but it is not the same with shields. We see immediately that they were of astonishing size, being almost as high as a man <sup>5</sup>. But what I can no way comprehend, is the manner in which the Greeks carried that arm in the time of the war of Troy, and the use they could make of it. It appears very plain, that then they did not carry their shield on their arms. It was fixed to their neck by a string, and hung over the breast. When they used it in fight, they turned it on their left shoulder, and supported it with their arm. To march they cast it upon their back, and then it hit against their heels <sup>6</sup>. I freely own, that I cannot conceive from this description how they could use this shield. This arm must have been of little use, and have caused a great deal of trouble and inconveniency on account of its immense size. How could a soldier fight? He was scarce able to move. He could not have free motions. Besides, they lost the principal use of the shield, which appears to me to have been particularly destined to guard off the strokes which threatened the head.

• L. 4. n. 180.

By means, without doubt, of the different colonies which passed successively into Greece, in the most early times. We find, in effect, a great conformity between the shields of the Egyptians and those of the Greeks in the heroic times. See Pochart, Phaleg. l. 4. c. 33. p. 334. & 335.

Yet they have different traditions on this subject in Greece. See Apollodor. l. 2. p. 67. & 68.; Diod. l. 5. p. 382.; Plin. l. 7. sect. 57. p. 415.

<sup>4</sup> Their name even means it. The Latin word *scutum*, shield, comes from the Greek word σκύτος, which signifies of skin. The ancient shields were almost always made of the skin of an ox.

*Galea*, helmet, comes from γαλή, which means weasel, because the first helmets were made of the skin of that animal. See Eustath. ad Iliad. l. 3. v. 336. p. 421. lin. 8.

<sup>5</sup> Iliad. l. 6. v. 117. 118. l. 16. v. 802. l. 7. v. 219.; Tyrtæus, carm. III. v. 23. &c.; Schol. ad Iliad. l. 2. v. 389.; Bochart, Phaleg. l. 4. c. 33. p. 334. & 335.; Feith. l. 4. c. 8. § 4. Animadv. p. 78.

<sup>6</sup> Iliad. l. 2. v. 388. 389. l. 5. v. 796. 797. &c. l. 12. v. 294. l. 14. v. 404. 405. l. 15. v. 479. l. 16. v. 106. l. 20. v. 261. 262. & 278. l. 6. v. 117. l. 11. v. 544.; Herod. l. 1. n. 171.

We



We are ignorant in what time the Greeks gave over carrying their shields in so unnatural and disadvantageous a manner. We only know, that the Carians, a very warlike people, changed this whimsical and gross custom. They shewed the Greeks to carry their shield, put on the arm by means of leather made in the form of handles, which they found out the art of fixing to them <sup>r</sup>.

With respect to helmets, it appears that they gave to them anciently a different form from that which was used in the war of Troy <sup>t</sup>. I shall not stop to give the particulars. I finish by observing, that, at that time, most of the arms were made of copper. Cadmus was, say they, the first who introduced that knowledge into Greece <sup>u</sup>. We know that the ancients had the art of hardening copper by tempering it <sup>x</sup>. As they were very ignorant in these early ages in the art of working iron, that metal was employed for very few uses.

Plutarch observes, with great reason, that Homer represents his heroes always well armed <sup>y</sup>. They did not rashly expose their life. As to the soldiers, the officers paid great attention to visiting their arms <sup>z</sup>. They took care also to make the troops eat before they led them to combat <sup>a</sup>.

I do not think that the Greeks in the heroic times had any method, any rule to divide and distribute into different bodies, the number of men which compose an army. By the reports of some historians, Mnestheus, who commanded the Athenians before Troy, passed for having first found out the art of forming the troops into battalions and squadrons <sup>b</sup>. But this fact appears to me very improbable. We do not see in Homer, that the Greeks then knew this

<sup>r</sup> Herod. l. i. n. 171.; Strabo, l. 14. p. 976.; Scholiast. Thucyd. l. i. p. 6. note 6.

<sup>t</sup> Paus. l. 10. c. 26.

<sup>u</sup> Conon, narrat. 37. *apud* Phot. p. 445.; Bochart, Chan. l. i. c. 19. p. 487. & 488. See also *supra*, b. 2. sect. 2. chap. 4. p. 218. & 219.

<sup>x</sup> See part i. b. 2. chap. 4. p. 159.

<sup>y</sup> *In Pelopid. init.*

<sup>z</sup> Iliad. l. 14. v. 381. & 382.

<sup>a</sup> See Feith. antiq. Hom. l. 4. p. 511. Animadvers. p. 81.

<sup>b</sup> See Meurs. de regn. Athen. l. 2. c. 8.

practice. This poet never uses any term to make us understand so much <sup>c</sup>. Neither do we find the different ranks of officers spoken of by latter writers. The personages whom Homer introduces on the scene, appear all equal in authority. I say nothing of uniforms. That is an institution absolutely modern.

As to the manner of ranging the troops in battle, the Greeks, from the time of the war of Troy, had some principles on this subject. Nestor and Mnestheus are celebrated by Homer as two very experienced captains in the art of ranging an army in battle <sup>d</sup>. We find in the Iliad the model of two different dispositions. In the first, Nestor places the cavalry at the head, that is to say, the chariots in which consisted what Homer then called cavalry. The infantry was ranged in the rear of the chariots to support them. Nestor placed in the centre his worst troops, to make those soldiers fight they had the least opinion of. The orders which the general gives to the cavalry, are to keep in their horses, to march in good order, and without mixing or confounding the ranks. He recommends above all to the conductors of chariots, not to value themselves for advancing before their comrades in charging the enemy first <sup>e</sup>.

On another occasion, on the contrary, we see the infantry placed in the front; the cavalry supporting them, by being placed in the rear of the battalions <sup>f</sup>. Homer gives us to understand, by the model of these two dispositions, that, at the war of Troy, the Greeks were instructed enough in the tactic, to know that they ought to range the troops differently, according as the ground was more or less open. These people, moreover, used to place their ranks very close <sup>g</sup>, taking care nevertheless to leave space enough between the files for the chiefs to pass easily <sup>h</sup>.

<sup>c</sup> He never uses but the vague and general word *φάλαγγξ*.

<sup>d</sup> Iliad. l. 2. b. v. 60. &c.

<sup>e</sup> Ibid. l. 4. v. 297. &c. See Feith. antiq. Hom. p. 512.

<sup>f</sup> L. II. v. 51.

<sup>g</sup> L. 13. v. 130. &c. l. 16. v. 211. & 215.

<sup>h</sup> Iliad. *passim*.



Homer represents to us the Greeks keeping a profound silence to the moment they engaged, and the Trojans pushing on giving great shouts<sup>i</sup>. This practice of giving great shouts in going to battle, was used among many nations of antiquity<sup>k</sup>. It still subsists in many countries. The Turks, and all the eastern people, give horrible shrieks the instant they are going to the charge.

It was a point of honour in these early times, to seize on the arms and the body of the conquered enemy. We find many examples of this way of thinking in Homer<sup>l</sup>, and in other Greek writers<sup>m</sup>. Thus the first care of the ancient heroes, when they perceived themselves mortally wounded, was to recommend themselves to those in whom they most confided, not to leave their arms nor their body a prey to the enemy. The fear of being abandoned gave them the greatest uneasiness. Sarpedon, on breathing his last, appears to be solely taken up with this thought<sup>n</sup>. Night always put an end to the combat<sup>o</sup>; a custom which seems to have been generally observed among the ancient nations.

It would be difficult to represent even tolerably the ideas Homer had of a general action. Although this poet makes frequent descriptions, yet we can neither distinguish conduct nor effect. He presents no plan, and offers no well-concerted or rational attack. Homer indeed speaks of the order of battle<sup>p</sup>; but we never see the application. We do not see the manner in which the troops joined and fought. We do not see the motion of the different corps which compose an army. We do not know whether the troops charged all at one time, or by divisions. No evolutions, no rational movements during the action. Lastly, no manœuvre nor any operation arising from the genius of the general. The chiefs fought as much as the soldiers, and were more in the fray. They seem to have been busied about nothing

<sup>i</sup> Iliad. l. 3. v. 2. & 8. l. 4. v. 429. &c.

<sup>k</sup> See Feith. l. 4. p. 516. & Animadvers. p. 82.

<sup>m</sup> See Herod. l. 7. n. 224. & 225. l. 9. v. 22. & 23.

<sup>n</sup> Iliad. l. 16. v. 495. &c.

<sup>o</sup> Feith. l. 4. p. 519. 520. & Animadvers. p. 82.

<sup>l</sup> Iliad. *passim*.

<sup>p</sup> *Supra*, p. 359.

but to fight themselves. Their merit consisted less in being able to command a troop well, than in killing a great number of enemies. Thus the battles described in the Iliad only present us with combats hand to hand; three or four personages on the one side and the other, strewing terror and overturning the whole army. Our Amadis's and our Rolando's could not have done more.

Besides, how can we conceive these long conversations which very often two heroes, enemies to each other, have together on the field of battle, the moment in which the troops are most eager for the combat? These facts are entirely repugnant to the idea we now have of a general action. Has Homer been directed in his description of battles by what they practised in the time of the war of Troy, or has he drawn it from pure imagination? That is what I am ignorant of.

There is often mention made of cavalry and horse in the combats of the Iliad, yet we ought not to be deceived by this. By the term *cavalry*, Homer did not understand cavalry such as we have at this time in our armies, nor such as the Greeks had in times posterior to the war of Troy. The word *cavalry* in this poet, only means chariots drawn commonly by two horses, and with two men in them. With respect to horsemen, they had none in the Greek armies, nor among those of the other nations of which Homer speaks, in the heroic ages. Not that the art of riding was then unknown in Greece. I do not presume it. That knowledge had been brought there very anciently by the colonies which came from Egypt and Phœnicia, countries where riding was used in the most early times<sup>r</sup>. But the method of making use of horsemen in war, and the art of forming them into a body of troops, was unknown to the Greeks in the heroic times. The only manner of using horses at that time among these people, was to put them to chariots, whether

<sup>r</sup> See Iliad. l. 6. v. 119. &c. l. 13. v. 248. l. 20. v. 177. One might cite many other examples.

<sup>r</sup> See part I. b. 5.



to go to battle, or to go a-journey<sup>r</sup>. This is a fact attested by all the writers of antiquity<sup>t</sup>.

It is astonishing to see, that the Greeks, and many other nations, were so long a time without knowing the use of cavalry. What! did they not perceive the inconveniencies of armed chariots? These machines occasioned great expense as well for their construction, as their maintenance. Besides, of the two men who were on each chariot, only one fought, the other conducted the horses: of two men there was one then entirely lost. Besides, they had chariots drawn not only with three, but even with four horses, for the service of one single person<sup>u</sup>: another loss equally sensible. Lastly, a ditch, a gutter made by a flood, an hedge, the inequality of the earth, might render all this apparel and all this expense absolutely useless; inconveniencies to which cavalry are much less exposed.

It was the little knowledge they had formerly of the military art which made them continue so long the use of chariots in their armies. They did not then know how to take the advantage of ground, nor to make war in an inclosed and irregular country. They commonly chose to fight on a large and extensive plain. Time and experience having made these people more knowing in the art of war, they perceived the disadvantages of chariots. Then polished nations entirely left them off, and substituted cavalry; but that reform was very late.

It seems, in the heroic times, they used to barb the horses destined for the use of the chariots of war<sup>x</sup>. But I do not think, that they then knew the art of shoeing them. Not any passage in Homer gives us to understand as much<sup>y</sup>; and  
it

<sup>r</sup> See Odyss. l. 3. v. 475. & 476.

<sup>t</sup> See Diod. l. 5. p. 346. & 367.; Pollux, l. 1. segm. 141.

<sup>u</sup> Iliad. l. 8. v. 185.

<sup>x</sup> This is what may be conjectured from ver. 156. & 157. of the second book of the Iliad, where Homer says, *that the plain shone with the brightness of the brass which covered the men and horses.*

<sup>y</sup> Eustathius, and after him Mad. Dacier, say, that the horses were shod in the time of the war of Troy. They ground their opinion on verses 152. & 153. of  
the

it is to be observed, that Xenophon, from whom we have a particular treatise of the manner of feeding and managing horses, does not speak of shoeing<sup>z</sup>. If in the time of Xenophon they did not yet shoe their horses in Greece, it is a proof that this practice was not introduced there till long after the heroic ages. This fact moreover ought not to appear extraordinary. There are at this time many nations who do not use to shoe their horses<sup>a</sup>.

The Greeks anciently had no military instruments to sound the charge, animate the troops, beat marches or retreats. There is no mention in the Iliad, of trumpets, of drums, nor of kettle-drums. Homer indeed speaks of the trumpet, but it is only by way of comparison<sup>b</sup>; and we should distinguish in this poet, what he says of his own authority, from what he reports as an historian. As a poet, he often uses comparisons drawn from customs posterior to the war of Troy. But as an historian, Homer, a wise observer of *customs*, does not incroach upon the times; and it is for this reason, that he does not give trumpets to the Greeks nor to the Trojans. He says only, that there was heard in the camp of the last, the sound of flutes and of pipes<sup>c</sup>. It is then certain, that the Greeks, in the heroic times, had not yet the use of the trumpet, nor of any other military instrument. Thus it was, at that time, a very desirable quality, and a very necessary one, in a commander to have a very strong and very loud voice. The talent of making yourself be understood at a great distance, was

the second book of the Iliad. Homer says there, as they pretend, that the horses *strike the ground with their brass*, καλῶν δειδωντες. But Eustathius and Mad. Dacier have not considered, that the participle δειδωντες relates to the nominative πεζοι and ἵππεις of verses 150. & 151. The sense then is, that the Greeks put the Trojans to flight by striking them, says the poet, with the brazen arms they had in their hands. See the remark of the scholiast on verse 153.

<sup>z</sup> See also les mem. de Trev. Janv. 1713, p. 171.

<sup>a</sup> Voyage de V. le Blanc, part 2. p. 75. & 81; Kämpfer, hist. du Jap. t. 2. p. 297. & 298.; Lettr. édif. t. 4. p. 143.; Tavernier, t. 1. l. 2. c. 5.; Hist des voyages, t. 3. p. 182.

<sup>b</sup> Iliad. l. 18. v. 212.

<sup>c</sup> Ibid. l. 10. v. 13.



formerly even so estimable, that Homer makes it a subject of praise for Menelaus <sup>d</sup>.

Colours, an invention so useful to conduct and rally the troops, were equally unknown, in these ages, to the Greeks and to the Trojans. Homer never speaks of them; and it would not have been so, if their use had been at that time established. They had not invented the practice of giving to the troops a certain word by which the soldiers of the same party might know each other, and rally themselves <sup>e</sup>. The surprises which Homer and Virgil so often speak of, are a proof of it.

From all these facts combined and compared together, it results, that, at the time of the war of Troy, the military art was still in its infancy among the Greeks. They had then no idea of the art of making war. The uniformity which reigns in the operations and in the manœuvres described by Homer, prove it sufficiently. The Greeks did not even know the secret of starving an enemy in a place, and of cutting them off from all communication from without <sup>f</sup>. The art of making war consisted, in these remote times, in surprising a party, and contriving properly an ambuscade <sup>g</sup>. We see by many places in the Iliad, that the Greeks had a high opinion of these sort of manœuvres <sup>h</sup>. We will at present say a word or two of their military discipline.

We do not clearly see the customs the Greeks anciently followed with regard to levying troops. Nestor indeed says in the Iliad, that he had been sent with Ulysses, by A-

<sup>d</sup> He gives to this prince the epithet *βοὴν ἀγαθόν*, the proper signification of which is, that Menelaus had a very proper voice to make himself understood. Iliad. l. 2. v. 408.

I do not doubt, but the sense in which I take this epithet, will not appear just to many persons. It is commonly explained by *valiant*, *intrepid*; but why may not this epithet be taken literally? Was it not at that time a very commendable quality in a commander to have a voice capable of making himself be understood even in battle?

<sup>e</sup> Plin. l. 7. sect. 57. p. 416. says indeed, that Palamedes had invented all these methods. But the opinion of Pliny, who, on this article, has only collected different traditions true or false, cannot balance the silence of Homer.

<sup>f</sup> See *supra*, p. 353.

<sup>g</sup> See Iliad. l. 18. v. 513; & 520. &c.

<sup>h</sup> L. I. v. 237, l. 13. v. 277, &c.

gamemnon, to raise soldiers all over Greece ; but Homer does not explain himself about the means these two princes employed to do it <sup>i</sup>. We only know that each family was obliged to furnish a combatant, and that it was chance which decided who should go <sup>k</sup>. They were not allowed to exempt themselves. Those who refused to be in arms, were condemned to a fine <sup>l</sup>. It further appears, that the Greeks went very young to war <sup>m</sup>.

It is certain, that in these remote ages the soldiers had no pay <sup>n</sup>. They served at their own expense and charges. The only indemnity which they could hope for was their part of the booty ; for then it was not permitted them to pillage for their sole use. They could not appropriate to themselves any spoil of the enemy. Every thing was brought with great exactness to the common stock. The division of them was made from time to time among the whole army, with the greatest exactness possible. The chiefs had a much larger share than the common soldiers <sup>o</sup>.

I have had occasion to remark elsewhere, that the authority of the ancient kings of Greece was not despotic. It was tempered by the concurrence of the people and the grandees of the state <sup>p</sup>. We recognise the same spirit of government in the order and the discipline of the Greek armies. Agamemnon, although generalissimo of the troops, had not an absolute authority. He had indeed the inspection of all the chiefs, and of the whole army. He commanded the troops on the day of action, and then he had the power of life and death <sup>q</sup>. But in every thing else  
his

<sup>i</sup> Iliad. l. 11. v. 759. &c.

<sup>k</sup> Ibid. l. 24. v. 400.

<sup>l</sup> L. 13. v. 669. l. 23. v. 297.

It may be conjectured from this last passage, that, at the time of the war of Troy, it was already settled that they could be dispensed with from serving, by providing a man, or even a horse that they were to furnish.

<sup>m</sup> Iliad. *passim*.

<sup>n</sup> See Suid. voce *Εὐκλείης*, &c. t. i. p. 749. ; Potter, *Archæolog.* l. 3. c. 2. p. 432.

<sup>o</sup> Feitn. antiq. Hom. l. 4. c. 16. p. 529.

<sup>p</sup> *Supra*, b. 1. ch. 4. art. 7.

<sup>q</sup> Iliad. l. 2. v. 391. &c.



his authority was very limited. The prince could decide nothing by his own will. He was obliged to assemble a council, and to follow the plurality of voices. The military discipline of the Greeks, in the heroic times, presents a continual mixture of monarchy, of aristocracy, and democracy.

We may distinguish in Homer three sorts of councils of war. The public and general council, where all the troops being assembled, each of the chiefs declared the subject on which they were to deliberate. The second book of the Iliad offers an example of these public deliberations. Agamemnon, to sound the disposition of the Greeks, proposes to the whole army to reembark, and renounce the project of taking Troy. In the ninth book, the prince makes such an assembly of the troops, to represent to them, that the only part that remains to be taken, is readily to regain Greece. It appears, moreover, that all the chiefs of the army indifferently had a right to assemble the troops for the council.

There reigned a very great liberty in these public councils. Every one there might say what he thought. Agamemnon himself was obliged to bear even the highest insults spoke to his face without any respect. Achilles does not spare him in the general assembly which that young hero had convoked on account of the plague which afflicted the Grecian camp. In that which is held in the ninth book of the Iliad, which I have just now spoke of, Diomede begins his discourse to Agamemnon, by saying, that he opposes the senseless advice given by that prince, and avails himself for that purpose of the liberty allowed in public assemblies; and afterwards he adds, indeed, Jupiter had given to Agamemnon a sceptre above all sceptres; but that that god at the same time had refused him strength and

Aristotle, in quoting this passage, de repub. l. 3. c. 14. adds half a verse which no longer appears in our copies. It makes Agamemnon say,

*Παρ' γὰρ ἐμὸν θάνατος.* For I have power over the life of those who disobey me.

\* See Iliad. l. 1. v. 54.

courage,

courage, whose empire was still more grand and glorious. Diomede, lastly, finishes his discourse by saying to that prince, that he was master of his return if he pleased, and that the roads were open to him<sup>c</sup>.

The public and general council could not be assembled on every occasion which presented itself to deliberate on any proceeding. They then held a particular council composed of the chiefs of the army. They there determined what they should do in the present circumstances; such, for example, as that in which the Greeks found themselves in the tenth book of the *Iliad*, when they were besieged in their camp by the Trojans. Agamemnon assembles the chiefs of the army, and deliberates with them about the measures they had to take in that critical situation.

They had, lastly, the private council which they held commonly in Agamemnon's tent. They admitted there none but chiefs of consummate prudence and experience. The young ones were excluded from it<sup>d</sup>. It is to be remarked, that, in Homer, the deliberations of the Greeks are generally accompanied with a repast. It was often even at table that they took the most important resolutions<sup>e</sup>.

We have a glimpse in Homer, of some signs of military punishments and recompenses. Agamemnon, in giving his orders for the combat, in the second book of the *Iliad*, threatens to give as a prey to dogs and birds, all those who shall be found in their ships far from the fray<sup>f</sup>.

With respect to military rewards, they were proportioned to the grossness of these remote times. Agamemnon, to encourage Teucer, one of the principal chiefs of the army, promises him, after the taking of Troy, that he shall have for the price of his valour, either a tripod, or a chariot drawn by horses, or, lastly, a woman, the possession of whom shall please him<sup>g</sup>. We see likewise, that on certain occa-

<sup>c</sup> *Iliad*. l. 9. v. 32. &c.

<sup>d</sup> *Ibid*. l. 9. v. 89. l. 2. v. 53.

<sup>e</sup> See Feith. l. 3. c. 5. p. 308.

<sup>f</sup> V. 391. &c.

<sup>g</sup> *Iliad*. l. 8. v. 239. &c.



sions they rendered a particular honour to heroes who signalized themselves by some great exploit. This honour consisted in giving them, at their feasts, a very large share of the victuals <sup>z</sup>.

Homer has not directly explained himself about the measures the Greeks took to get provisions for their army, while they were before Troy. Thucydides says, that they had sent into the Chersonesus of Thrace, many detachments to sow corn and make the harvest <sup>a</sup>. This sentiment appears to me very ill founded. It is not seen in the Iliad, that from the moment the troops were assembled before Troy, they were ever sent from the camp; it was by sea that the Greeks had their subsistence. Homer makes it plain enough <sup>b</sup>. From time to time, there arrived convoys, which, as far as one can presume, came from the different isles neighbouring on the Troades <sup>c</sup>. We know that the Greeks had taken care to make themselves masters of them during the course of the expedition <sup>d</sup>.

I finish what I have to say on the war of Troy by one last remark. The desire of revenging the affront done to Menelaus, was the only motive which engaged the Greeks to carry their arms into Asia. The object of making conquests, and of aggrandizing themselves, had no share in that enterprize. On the contrary, Troy was scarce taken, but the first care of the Greeks was to return back, without taking any measure to secure the country they came to conquer. The advantage they gained over the Trojans, was then literally, and according to their proverb, a *Cadmean* victory. For the small portion of booty which the Greeks had to divide, they gave an opportunity for the greatest vices and the greatest disorders being introduced into their country <sup>e</sup>. The long absence of the greatest part of the princes of Greece, opened the doors to licence and ir-

<sup>z</sup> Iliad. l. 7. v. 321.

<sup>a</sup> L. 1. p. 9.

<sup>c</sup> Ibid. l. 7. v. 467. & 468.

<sup>e</sup> Strabo, l. 13. p. 223.

<sup>b</sup> Iliad. l. 7. v. 467. & c. l. 9. v. 71. & c.

<sup>d</sup> Ibid. l. 9. v. 328.

regularities.

regularities. Thus it was being a prey to seditions which forced the ancient inhabitants to leave their country <sup>c</sup>. Constrained to go and look for new habitations, these wandering troops addicted themselves to robbery and piracy. Those of the Trojans who survived the destruction of their country, embraced also the same way of life <sup>d</sup>. The concurrence of all these events produced a nursery of pirates and robbers, who did not cease for many ages to desolate trade and trouble the repose of the seas and the continent <sup>e</sup>.

Eighty years after the destruction of Troy, Greece experienced a grand revolution. It was occasioned by the different movements which the descendents of Hercules made to enter into the dominions which belonged to them. This enterprize armed the Greeks against each other, and caused a long and bloody war, the success of which was various enough. They fought many battles, and many combats <sup>f</sup>. Yet I shall pass in silence the detail of all these events. We can scarce collect any instruction about the object which now employs us. I shall only remark, that, according to some writers, it was at this time that the use of the trumpet was introduced into the Greek armies <sup>g</sup>.

I shall speak of a custom of which the history of these remote times furnishes us with many examples. It is seen on many occasions, when the armies, being in sight of each other, seem to be coming to blows, that instead of engaging, they referred the decision of the war to the hazard of a single combat. They chose on each side a champion, and the event of their combat ruled the fate of the party they sustained. The army whose champion had been conquered, retired without thinking of giving battle; and the articles which had been agreed upon were executed very faithfully <sup>h</sup>. It further appears, that this custom had place in the most early times, and among other people besides the Greeks.

<sup>c</sup> Thucyd. l. 1. p. 9.; Plato de leg. l. 3. p. 807. D.

<sup>d</sup> Strabo, l. 3. p. 223. <sup>e</sup> See *supra*, b. 4. ch. 4.

<sup>f</sup> See *supra*, b. 1. ch. 4. art. 6. <sup>g</sup> Suid. voce Κρόνον, t. 2. p. 360.

<sup>h</sup> See *supra*, b. 1. art. 4. p. 47. & 48.



In the third book of the *Iliad*, the Greeks and the Trojans being in fight of each other, and ready to engage, Hector proposes to determine the differences of the two nations, by a single combat between Paris and Menelaus. The conditions offered and accepted by both parties are, that the conqueror shall take away Helen with all her riches, and the two armies shall separate after the Greeks and the that Trojans have entered into a firm and sincere alliance.

On the subject of these single combats, let us make a reflection, which presents itself often in the reading of Homer. This poet describes many single combats between heroes of the first rank. Yet there is no detail, no variety in these recitals. The combats which he paints, only last a moment, and are not disputed. The champions on both sides only give one blow, and that blow is always decisive. Hector fights against Achilles. These two heroes are both covered with impenetrable arms. We expect to see the poet profit by this circumstance, to make the combat last some time between these two very famous personages, whom he has introduced into his poem. Hector, nevertheless, is laid upon the ground at the first stroke. Achilles pierces his throat, which the armour had left uncovered<sup>m</sup>. Lastly, we must observe, that the heroes of Homer scarce ever used the sword. They commonly used the pike and the javelin.

Tasso, on the contrary, and the other modern poets, are extremely various, and afford many details in their descriptions of combats. Whence comes this difference? and why this barrenness in Homer, whose imagination in other respects is so rich and fruitful? It is, because in the heroic ages, and even in Homer's time, strength decided every thing in combats. Dexterity went for nothing. They had not yet studied the art of fighting. The different exercises which teach the way of handling arms to the greatest advantage, were not invented; fencing, in a word, was not then known. Homer, of con-

<sup>m</sup> *Iliad*. l. 22. v. 324. &c.

sequence, wanted ideas to vary and particularize his combats.

After so many details about the state of the military art, in the ages we are running over at present, if we should cast a glance on the manner in which the conquerors used their advantages, we shall be seized with horror at what were then the laws of war, and the spirit of barbarity and cruelty which reigned among all the different nations of whom I have had occasion to speak. Cities reduced to ashes, people massacred in cold blood, or reduced to the most cruel slavery, were the common consequences of victory. They neither respected age, nor sex, nor birth. Sovereigns saw themselves exposed to the most cruel indignities. There were no sort of horrors, in a word which the conquerors did not exercise.

The writers of antiquity praise Sesostris for the moderation with which he treated the nations he had become master of. He left, say they, the princes whom he conquered on their thrones, contenting himself with imposing tributes in proportion to their power, on condition, nevertheless, that they themselves should bring them into Egypt<sup>a</sup>. But in what manner did Sesostris treat these princes, when they came each year, at the time appointed, to pay the tribute agreed upon? Each time that the Egyptian monarch went to the temple on these occasions, or that he entered into his capital, they unloosed the horses from his chariot, to put in their place the kings who came to do him homage<sup>b</sup>.

Adonibefec, who reigned in Palestine about two ages after Sesostris, furnishes us with an example still more striking, of the excesses to which the conquerors carried themselves in these barbarous and rude ages. He had defeated and taken seventy other sovereigns of that country. It shocks one to see the manner in which he used his victories. He caused to be cut off the extremities of the feet

<sup>a</sup> Diod. l. i. p. 68.

<sup>b</sup> Id. *ibid.*; Lucan. *Pharsal.* l. 10. v. 277.; Plin. l. 33. *sect.* 15 p. 617.



and hands of those unhappy princes, and reduced them to have no other nourishment than the fragments that were left, and which they were obliged to pick up from under the table <sup>r</sup>.

The laws of war were not less cruel among the Greeks. I shall not speak of the indignities exercised by Achilles on the body of Hector, although the whole army seemed to take part in a proceeding so low and inhumane <sup>s</sup>; nor shall I likewise take notice of the twelve Trojans sacrificed by this hero on the grave of Patroclus <sup>t</sup>. We may think that he suffered himself to be carried to that excess from an extravagant motive of vengeance. But when we read in Homer the taking leave of Andromache and Hector, we shall see what were at that time the rights of the conqueror, and how he used these advantages <sup>u</sup>. Death or slavery were the portion of the conquered nation. Nothing could shield them from it. Sovereigns massacred, their bodies cast out a prey to dogs and vultures, their children crushed to death at the breast, queens following unworthily in chains, were the common excesses to which the conquerors abandoned themselves <sup>v</sup>. They added outrage and humiliation to the rigours of captivity. Princesses were employed in the most vile offices. Hector does not scruple to say to Andromache, that if the Greeks became masters of Troy, she would be condemned to go and draw water like the meanest of slaves <sup>w</sup>.

Hecuba complains, in Euripides, that she was chained like a dog at the gate of Agamemnon. And we cannot think that the spirit of vengeance carried the Greeks to particular cruelties on the taking of Troy. These excesses were only too common in the heroic ages. The Argives,

<sup>r</sup> Judg. c. i. v. 7.

<sup>s</sup> Each soldier came to insult on the death of this hero, and each word was accompanied with a stroke of the pike or javelin. *Iliad*. l. 22. v. 371. &c.

<sup>t</sup> *Ibid*. l. 23. v. 175.

<sup>u</sup> *Ibid*. l. 6. v. 448. See also l. 9. v. 587. &c.

<sup>v</sup> See *Iliad*. l. 22. v. 62. &c.; *Virgil. Æneid*. l. 2. v. 550. &c.

<sup>w</sup> L. 6. v. 457. This was formerly the business of the lowest people. See *Joshua*, c. 9. v. 23.

under the conduct of Alcmeon, having become masters of Thebes, they destroyed that city and utterly ruined it \*. I could still cite other examples; but it is better to spare the reader, and not dwell any longer on facts so shameful to humanity.

Lastly, we see, and it is the last trait by which I pretend to characterize the Greeks in the heroic times; we see, I say, that these people had then the horrible custom of poisoning their arrows. Homer relates, that Ulysses went purposely to Ilus, King of Ephyrus, to demand of him poison to rub his darts. Ilus refused to give him any, because, says the poet, he feared the gods. But, adds he, Ulysses obtained it of another prince, sovereign of Taphos †. It will perhaps be said, that in all the wounds of which Homer had occasion to speak, it is not seen that the effect of poison is mentioned there. I agree, that the poet does not tell us so much. But I presume he has affected this silence out of respect and regard for his nation.

\* Apollod. l. 3. p. 159.

† Odyss. l. x. v. 260.



## B O O K VI.

*Of Manners and Customs.*

**W**E have nothing to say, in this second part, of the manners of the Egyptians. I have reported under the first epoch all that could relate to that object. I am so much the more addicted to this opinion, as the manners of the Egyptians at that time were quite formed, and in that respect nothing is changed among these people. The manners were always the same in Egypt, as long as that nation subsisted under the dominion of its natural kings. If, in the course of time, it appears, that they have introduced some novelties, they should only be attributed to foreign nations, who successively from Cambyfes, have rendered themselves masters of Egypt. I shall observe the same silence about the manners of Asia Major. I have already had more than once occasion to explain the motives. We absolutely lose sight of these nations for a long space of time. They do not begin to appear in history till towards the ages which make the object of the third part of this work.

We have only then to consider, at this time, the manners of the inhabitants of Palestine, and those of some nations of Asia Minor. I shall afterwards speak of the Greeks; and shall examine what were the manners and customs of that nation in the heroic ages, that is to say, in the times under examination at present.

## C H A P. I.

*Of the inhabitants of Palestine.*

There has, at all times, been remarked a great relation between the manners of a nation and its progress in the arts and sciences. The taste for pomp, luxury, and magnificence has always been the reigning vice of the eastern people. I have shewn elsewhere<sup>a</sup>, that, in the first ages after the deluge, the inhabitants of Palestine had carried the arts and sciences to a great degree of perfection. These discoveries soon furnished this people with many ways of gratifying the desire they had for luxury and effeminacy. This inclination hath always been, if one may say so, increasing. This is seen from the manner in which Moses speaks, that in his time there must have reigned great pomp and magnificence in the greatest part of the countries of Palestine. The nations who inhabited it at that time, wore gold rings, ear-rings, bracelets, and fine collars<sup>b</sup>. I have even observed in the preceding book, that among all these different nations, it was their custom to go to war, set off with all their most valuable and rich things<sup>c</sup>. Lastly, luxury was carried so far in these climates, that they adorned the camels destined for the use of their sovereign, with studs, chains, and plates of gold<sup>d</sup>.

Profane historians agree in this point with the sacred books. They teach us, that the art of staining stuffs purple, a colour so sought after by the ancients, that it disputed the price with gold itself, was due to the inhabitants of Palestine<sup>e</sup>. I have shewn elsewhere, that this invention should be ascribed to the ages we are now run-

<sup>a</sup> See part. I. b. 2. & b. 3.; and *supra*, b. 2. sect. I. c. 2. &c.

<sup>b</sup> Numb. c. 31. v. 50.

<sup>c</sup> Chap. 2. p. 345.

<sup>d</sup> Judg. c. 8. v. 21. 24. 26.

<sup>e</sup> See *supra*, b. 2. sect. I. c. 2. art. I. p. 95. & 96.



ning over <sup>f</sup>. It is also sufficient to open the poems of Homer, to be convinced, that, at the time of the war of Troy, the Phœnicians were able to supply most part of the known world, with every thing that could contribute to support luxury, pomp, and effeminacy.

These facts prove sufficiently, what must have been the manners and reigning inclinations of the inhabitants of Palestine. But the particular detail of their customs and manners is absolutely unknown to us. I presume, in general, that the manner in which the inhabitants of Palestine lived, in the ages of which I now speak, were very like the manner of living we have seen took place in that country in the most early ages <sup>g</sup>. We know, that the manners and customs of the eastern people change very little.

## C H A P. II.

### *Of the people of Asia Minor.*

**T**HERE was much conformity, in the same ages, between the manners of the inhabitants of Palestine, and those of the nations of Asia Minor. We see equally reign among both these people, great magnificence and effeminacy. We may judge by what Homer says of the Trojans and their allies. The manner in which he expresses himself on many occasions, shews plain enough the inclination and character of these nations. This poet even furnishes us, on this article, with some details capable of satisfying our curiosity.

It appears, that these people were very curious as to their apartments. Homer tells us, that there were in Troy many very large, very spacious, and magnificent palaces.

<sup>f</sup> See *supra*, loco cit.

<sup>g</sup> See part I. b. 6, c. I.

That of Priam included a number of apartments which composed so many separate pavilions, yet contiguous and joined to each other. There were fifty at the entrance of the court of his palace. These fifty pavilions were inhabited by the princes, sons of this monarch. They lodged there with their wives. At the bottom of the court, and opposite to the apartments I have just mentioned, were twelve other pavilions, for the sons-in-law of Priam<sup>b</sup>. Hector and Paris had each their particular palace independent of these<sup>c</sup>.

I said elsewhere, that we are ignorant in what the magnificence of these palaces could consist, on the score of architecture. We are not much better instructed as to the interior decoration. We see, in general, that the apartments of all these different palaces were wainscotted with the finest woods<sup>d</sup>, and ornamented with valuable moveables<sup>e</sup>, but of what sort, is not very well known. Homer farther says, that there breathed in these apartments a perpetual odour of the most exquisite and most agreeable perfumes<sup>f</sup>.

The Trojans were not less curious nor less voluptuous in their dress and habits. The Trojan ladies made great use of perfumes. They rubbed their bodies with odoriferous essences, and perfumed their habits<sup>g</sup>. Their cloaths were in great number and very various<sup>h</sup>. Lastly, their toilette required much art and much time. We may be convinced of this, by reading the picture Homer makes of Juno's<sup>i</sup>. For I am persuaded that we ought to refer to the manners of the inhabitants of Asia Minor, all the descriptions which the poet makes of the dresses and toilettes of the goddesses. He would probably paint, on these occasions, what the wo-

<sup>b</sup> *Iliad*. l. 6. v. 242. &c.

<sup>c</sup> *Ibid.* l. 6. v. 313 317. 370.

<sup>d</sup> *Ibid.* l. 24. v. 191. & 192.

<sup>e</sup> *Ibid.* l. 6. v. 289. l. 24. v. 192.

<sup>f</sup> *Ibid.* l. 3. v. 282. l. 6. v. 488. l. 24. v. 191.

<sup>g</sup> *Ibid.* l. 14. v. 170. &c. l. 3. v. 335. ; *Odysse*. l. 6. v. 79. & 80.

<sup>h</sup> *Ibid.* l. 18. v. 400. & 401. l. 22. v. 463. &c. l. 14. v. 180.

<sup>i</sup> *Iliad*. l. 14. v. 170. &c.



men of his country practised; and, I think, that Homer was born and passed his life in Asia Minor.

We farther see, in the heroic ages, it was the custom, in these climates, for the princesses to be served by a great number of female slaves<sup>a</sup>. By the by, they were the only sort of domestics ever known in the east.

With respect to the private and particular life of princesses, Homer and many other writers of antiquity teach us, that, in the heroic ages, they employed themselves in sewing, embroidering, and, in a word, working different works in frames<sup>b</sup>. We, moreover, find among the people of Asia Minor the same customs, with respect to the women, that I have said, in the first part, always took place in the east. The women had their separate apartments<sup>c</sup>, and never appeared in public but when covered with a veil<sup>d</sup>.

Luxury and effeminacy among the Trojans extended itself even to the men. They particularly took great care of their hair. Homer represents Paris entirely taken up with the care of dressing his hair<sup>e</sup>. Turnus in Virgil is also reproached by Æneas for dressing and perfuming his hair<sup>f</sup>. These people did not content themselves with having their hair in elegant order: they enriched it also with rings of gold and silver, which served to keep up the curls<sup>g</sup>. Lastly, we see, that Homer always gives to the Trojans, and to their allies, very rich and magnificent arms. The armour of Glaucus was of gold<sup>h</sup>. Nothing could equal the magnificence of the chariot which Rhesus used for war. His

<sup>a</sup> Iliad. l. 6. v. 286. 287. 375. 381. l. 22. v. 442. l. 24. v. 302.

<sup>b</sup> Ibid. l. 3. v. 125. l. 6. v. 491. l. 22. v. 440. l. 1. v. 31.; Odyss. l. 7. v. 105. 106.; Virgil. Æneid. l. 7. v. 14. See also Ovid. metam. *passim*.

<sup>c</sup> Iliad. l. 6. v. 251. & 252.; Odyss. l. 6. v. 15. &c. v. 50. 51.

<sup>d</sup> Iliad. l. 3. v. 141. 228. 419. l. 22. v. 470.

<sup>e</sup> Iliad. l. 11. p. 385.

The expression which Homer uses on this occasion, shews, that it was then the custom among the people of Asia Minor, to divide their hair before, so that they rise into a point, and they made them like two horns. See M. Dacier, t. 3. p. 88.

<sup>f</sup> *Vibratos calido ferro, myrrhæque madentes.* Æneid. l. 12. v. 160.

<sup>g</sup> Iliad. l. 17. v. 51. & 52.; Plin. l. 33. sect. 4. p. 602.

<sup>h</sup> Iliad. l. 6. v. 235. & 236.

arms dazzled the eyes by the richness and the beauty of their work <sup>a</sup>.

I have nothing to say about the repasts and diversions of these people. I shall only remark, that Priam complains, that his children passed all the night in dancing and feasting. He particularly reproaches them for making a great consumption of lambs and kids <sup>b</sup>. This circumstance shews, that they then looked upon the eating of such meats as too sensual a delicacy. By examining the different traits scattered in the poems of Homer about the manners of the Trojans and their allies, it follows, that, in the heroic times, there must have been great luxury and effeminacy among the people of Asia Minor.

In spite of the magnificence and sensuality which then reigned in these countries, yet we there perceive certain practices which should be looked upon like the rest of the customs primitively established among most of the nations of antiquity. The sons of Priam themselves drew the chariot from the coach-house, when it was to carry that monarch to the Grecian camp. They put the horses and the mules to it, and also packed up the coffer which contained the presents designed for the ransom of the body of Hector <sup>c</sup>. We see absolutely the same custom among the Phæacians, a nation, according to Homer, still more addicted to luxury and magnificence than the Trojans <sup>\*</sup>. The sons of Alcinous unloosed the mules of the Princess Nausicaa their sister, and carried the packets with which the chariot was loaded, into the palace of the King their father <sup>d</sup>. Yet Alcinous had a great number of domestics. We even see, that this was customary on many occasions <sup>e</sup>.

I have already said, that the princesses had also women to serve them. Yet they themselves did many offices troublesome enough. Nausicaa goes to wash her robes at

<sup>a</sup> Iliad. l. 10. v. 433. &c.

<sup>b</sup> Ibid. l. 24. v. 261. & 262.

<sup>c</sup> Ibid. l. 24. v. 265. &c.

<sup>\*</sup> See the reason why I place the Phæacians among the nations of Asia, above, p. 84. note <sup>\*</sup>.

<sup>d</sup> Odyss. l. 7. v. 4. &c.

<sup>e</sup> Ibid. l. 6. v. 69. & 71.



the river with her women, and puts her hands to the work herself<sup>f</sup>. The women and the young ladies of Troy used to do the same<sup>g</sup>. The mixture of luxury and simplicity, which we remark perpetually in the manners of the ancient nations, forms a contrast singular enough. In these early times, they were very distant from the ideas which we now have of the decency and decorums proper to rank, to sex, and the quality of persons.

### C H A P. III.

#### *Of the Greeks.*

**I** Deferred to this time to speak of the manners and customs of the Greeks. These people, in effect, only began very lately to form themselves into societies. They lived in early times in so brutal and savage a way, that history has not deigned to take notice of them, or give us details which would be shameful to humanity. It was only towards the commencement of the ages which employ us in this second part, that we can perceive any plan or principles in the manners of the Greeks. Homer shall be our principal voucher for most of the customs of which I am going to speak.

We must not look for luxury and delicacy at the tables of the Greeks in the heroic ages.

These people lived then a very rude life, and, of consequence, a very frugal one. They only eat bull, ram, he-goat, and boar. I say bull, ram, &c. because Homer always gives us to understand, that, at the time of the war of Troy, the Greeks did not yet know the art of gelding animals<sup>h</sup>. In reading the description which this poet gives of the Grecian feasts, we imagine we are reading those modern relations, where they speak of the repasts of savages. When the

<sup>f</sup> Ibid. v. 90. & 91.

<sup>g</sup> Iliad. l. 22. p. 154. & 155.

<sup>h</sup> See Odyss. l. 14. v. 16. & 17.

Greeks prepared to eat, they knocked down a bull or cut the throat of a ram; they skinned these animals, and cut them into many pieces, which they broiled immediately<sup>i</sup>. I say broiled, because in the heroic times they did not yet know the art of roasting meat<sup>k</sup>. Let us add, that it was kings and princes who then joined themselves not only in this care, but also in killing and cutting them up<sup>l</sup>. A sort of poniard which they always carried at their girdle, served them for a knife<sup>m</sup>.

Another conformity of the Greeks with the savages. They had neither spoons, nor forks, nor table-cloths, nor napkins. I do not even see, that tables were known to them. Lastly, for the last trait of resemblance, these people, like the savages, eat prodigiously. It was to do honour to the principal guests, to give them very large pieces of meat. Agamemnon gives Ajax the entire back of a bull<sup>n</sup>. When Eumens receives Ulysses, he prepares for that prince two young hogs<sup>o</sup>.

With respect to game, poultry, and eggs, they are never mentioned in the feasts of Homer. They do not even appear on the tables of Penelope's suitors, although the poet represents them abandoned to all sorts of debaucheries and excesses<sup>\*</sup>. It is the same as to fruits and vegetables. Homer makes no mention of them<sup>p</sup>. As to fish, the Greeks in the heroic ages greatly despised that sort of nourishment. Me-

<sup>i</sup> See *Iliad*. l. 1. v. 459. &c. l. 24. v. 622. &c. *Odyss.* l. 3. v. 448. &c. l. 20. v. 250. &c.

<sup>k</sup> See *Athen.* l. 1. p. 12. B.; *Serv. ad Æneid.* l. 1. v. 710.

It appears, that they also boiled certain pieces which they could not easily broil. See *Athen. ibid.* p. 25. D.

<sup>l</sup> *Iliad*. l. 9. v. 209. &c. l. 24. v. 621. &c.

<sup>m</sup> *Iliad*. l. 3. v. 271. 272.

<sup>n</sup> *Ibid.* l. 7. v. 321.

<sup>o</sup> *Odyss.* l. 14. v. 74. &c.

<sup>\*</sup> The Greeks nevertheless sometimes eat venison, but only on very pressing occasions, and for want of other food. See *Odyss.* l. 9. v. 155. l. 10. v. 180. &c.

<sup>p</sup> In all Homer's poems, onions are only served up once, and even that is only to excite thirst. *Iliad.* l. 11. v. 629.

With respect to fruits, they do not appear in any repast. Yet the Greeks must have eaten them in the heroic ages, since there were pear-trees, apple-trees, and fig-trees in the garden of Laertes. *Odyss.* l. 24. v. 339. &c. supposing that the 24th book is Homer's.



nelaus in the *Odyſſey* excuſes himſelf from having eaten it, becauſe he was at that time reduced to the greateſt neceſſity <sup>a</sup>.

Wine was the common liquor of the Greeks; women, and even young perſons drank it <sup>r</sup>, contrary to the cuſtom of all the other nations of antiquity <sup>s</sup>. The cuſtom was at the time of the war of Troy, that they brought this liquor mixed with a certain quantity of water. One of the firſt preparations for a feaſt was, to begin with mixing wine and water together in large veſſels, from whence they drew it to fill the cups to preſent it to the gueſts <sup>t</sup>. For they only gave it by meaſure, and, as far as one can judge, they were not allowed to drink as much as they pleaſed <sup>u</sup>. A circumſtance which has always ſtruck me in the Grecian antiquity, is the affectation with which almoſt all the hiſtorians name him who paſſed for having firſt found out the ſecret of mixing water with wine <sup>x</sup>. They have even raiſed a ſtatue to him. Was this ſo uncommon a diſcovery, and of a ſpecies to attract the whole attention of poſterity? It plainly appears, that the Greeks attached to it a merit which does not ſtrike us at preſent <sup>y</sup>.

Theſe people, in the times I ſpeak of, commonly made two meals a-day, one at noon, and the other at night <sup>z</sup>. The laſt was always the largeſt and moſt conſiderable <sup>a</sup>. They ſerved up the meat all cut, and each gueſt had a portion marked out, which they preſented to him ſeparately <sup>b</sup>.

<sup>a</sup> L. 4. v. 368. & 369.    <sup>r</sup> *Odyſſ.* l. 6. v. 77.    <sup>s</sup> See *Athen.* l. 10. p. 441.

<sup>t</sup> See *Feith. antiq. Hom.* l. 3. c. 2. p. 280. &c.

<sup>u</sup> See *Iliad.* l. 4. v. 261. 262.; l. 8. v. 162.; *Athen.* l. 5. p. 192.

<sup>x</sup> *Hygin. fab.* 274.; *Plin.* l. 7. ſect. 57. p. 415.; *Athen.* l. 2. p. 38. & 45. *Scholiaſt. Stat. ad Theb.* l. 1. v. 453.

<sup>y</sup> We may perhaps find the motives of theſe eulogies from the quality of the Greek wines. They are all luſcious, and drink ever ſo little, they fly into the head, and are troubleſome. They have therefore thought they ſhould ſhew ſome acknowledgment to him who had found a way of taking from theſe wines their bad quality, by an exact and proportioned mixture of water. For they obſerved rules in it. They had certain wines which they diluted more or leſs according to their qualities. Homer gives us many examples of it.

<sup>z</sup> See *Feith.* l. 3. c. 3.    <sup>a</sup> *Ibid.* p. 289.

<sup>b</sup> *Iliad.* l. 2. v. 431. l. 9. v. 217. l. 24. v. 626.; *Odyſſ.* l. 14. v. 434. l. 15. v. 140. l. 20. v. 280.; *Athen.* l. 1. p. 12.

The Greeks eat sitting in the heroic ages<sup>c</sup>, and not lying on couches, as was the custom afterwards. We presume, that they did not then like to have above ten at the table<sup>d</sup>. It must be observed, that the women did not eat with the men. Lastly, I shall observe, that the company drank to each other's health<sup>e</sup>.

The dress of the Greeks, in the times which now employ us, was something like to the people that I have spoken of in the first part of this work.

It consisted for the men in a very long tunic, and in a cloak which they fastened with a clasp<sup>f</sup>. They tucked up the tunic by means of a belt, when they were to do any thing, to walk or go to battle<sup>g</sup>. The use of linings must not have been then known in Greece. I judge thus from the custom the people then had of frequently washing their cloaths<sup>h</sup>. The manner in which they did it, deserves to be taken notice of. They cleaned their stuffs, by treading them with their feet in large ditches they had prepared for that purpose<sup>i</sup>.

The Greeks, in the heroic ages, used shoes, but not constantly. They only used them when they went out<sup>k</sup>. We do not see plainly what were the form of these shoes. The men also wore a sort of buskin made of neats hide<sup>l</sup>, which came to the calf of their leg. They had no sort of covering for their head; their dress in this respect consisted in the beauty of their hair, which they wore very long<sup>m</sup>. Light-coloured was at that time most esteemed<sup>n</sup>. Those who valued themselves for dress, fastened the curls of their hair with gold pins. Among the Athenians these pins were made in the form of the cicada<sup>o</sup>. As to the beard, the Greeks in the heroic times let it grow<sup>p</sup>.

<sup>c</sup> Athen. l. 1. p. 11. F.; Feith. l. 3. c. 5. p. 296.

<sup>d</sup> See Eustath. *ad* Iliad. l. 2. v. 126.

<sup>e</sup> Feith. l. 3. c. 5. p. 306. & 307.; Plut. t. 2. p. 156. F.

<sup>f</sup> See Feith. l. 3. c. 6.      <sup>g</sup> Idem *ibid.* p. 321. l. 4. c. 8. p. 464. & 465.

<sup>h</sup> Feith. p. 348.      <sup>i</sup> Odyss. l. 6. v. 93.      <sup>k</sup> Feith. l. 3. c. 7. p. 331.

<sup>l</sup> Odyss. l. 24. v. 227.      <sup>m</sup> See Feith. l. 3. c. 10. p. 349.

<sup>n</sup> *Ibid.* p. 350.      <sup>o</sup> Thucyd. l. 1. p. 4. D.

<sup>p</sup> Odyss. l. 16. v. 176. l. 18. v. 175.; Diod. l. 4. p. 251.



It was the custom in these age, not only for princes, but even for considerable persons, such as fathers of a family, judges, &c. to carry as a mark of distinction, a baton made in the form of a sceptre<sup>a</sup>. It is to be remarked, that Homer never speaks of crowns nor diadems. The Greeks did not know them in the heroic times.

There had at that time reigned great luxury in the mens dress. This is the description that Homer makes of that of Ulysses. This prince, says he, was clothed in a very fine and very large purple cloak, which was fastened with a double clasp of gold. The cloak was embroidered on the fore-part. There was seen, among other subjects, a dog holding a fawn ready to tear it to pieces. These figures were in gold. Under the cloak Ulysses had a tunic of exceeding fine stuff, the lustre of which Homer compares to that of the sun<sup>r</sup>. From hence it may be inferred, that the Greeks then wore cloths, into the tissue of which they put gold and silver.

There remains to us almost the same detail of the dress of the women in these remote times. They had at that time long robes tied and fastened with clasps of gold<sup>r</sup>, among persons of ease and distinction. Homer does not tell us in what consisted the beauty of these dresses. With respect to the other ornaments of the Greek ladies, in the heroic ages, they wore collars of gold, and bracelets of the same metal, adorned with amber, and ear-rings with three drops<sup>r</sup>. We must add, that they then used painting to clear and heighten their complexion<sup>u</sup>. We must further observe, that the women of distinction never went abroad but when covered with a veil, or rather a sort of mourning-veil<sup>x</sup>, which they put over their robe, and fastened it with a clasp<sup>y</sup>.

<sup>a</sup> Iliad. l. 2. v. 46. & 186. &c. l. 18. v. 556. & 557.; Odyss. l. 2. v. 37. l. 3. v. 412.

<sup>r</sup> Odyss. l. 19. v. 225. &c.

<sup>r</sup> Iliad. l. 5. v. 424. & 426.

<sup>t</sup> Odyss. l. 11. v. 325. & 326.; Ælian. var. hist. l. 1. c. 18.; Paus. l. 9. c. 41. p. 796.

<sup>u</sup> Odyss. l. 18. v. 171. 191. & 192.

<sup>x</sup> Ibid. l. 1. v. 334.

<sup>y</sup> Iliad. l. 5. v. 424. & 425.

But it must be agreed, that the dress of the Greeks, as well for the men as for the women, was very imperfect. Is it not astonishing, for example, that these people never knew neither breeches, nor stockings, nor drawers, nor pins, nor buckles, nor buttons, nor pockets? They knew no more of caps nor hats. I have already shewn that the Greeks did not use to line their cloaths; thus, for fear of being cold, they were obliged to have recourse to their cloaks<sup>z</sup>. It is still more strange, that not being ignorant of the art of preparing flax, or making cloth of it<sup>a</sup>, they should never think of making shirts; and, in general, linen was entirely unknown to them. It is for this reason that the use of the bath was so familiar to the ancients. The invention of linen, and the custom of wearing it habitually, has introduced, in this respect, a remarkable change in our manners.

I have shewn in the preceding books, that we cannot form an exact and clear idea of the external form of the Greek houses, in the heroic times<sup>b</sup>. The distribution and the decoration of their apartments are not much better known to us. It only appears, that the lodgings below were inhabited by the men, and those above by the women<sup>c</sup>. All those apartments notwithstanding must have been very inconvenient, since the Greeks neither knew the use of chimneys, nor windows, nor a number of other inventions, of which we do not at this time perceive all the merit, from having enjoyed them from our infancy.

As to moveables, we can speak of them with a little more precision. The Greeks had at that time two sorts, the one for use and conveniency, and the other for luxury and show. The first consisted in beds, chairs, tables, and coffers<sup>d</sup>. For these people, in the heroic times, neither had presses, side-boards, nor buffets. They did not

<sup>z</sup> See *Odyss.* l. 14. v. 480. &c.

<sup>a</sup> See *Iliad.* l. 9. v. 657. l. 20. v. 128.; *Odyss.* l. 13. v. 73. l. 14. v. 519.

<sup>b</sup> B. 2. chap. 3. p. 213.      <sup>c</sup> See Feith. l. 3. c. 11. p. 363.

<sup>d</sup> *Odyss.* l. 8. v. 424. 425. 438. 439.



use hangings. Let us now speak of the useful moveables.

The Greek beds were composed of girth bottoms, ornamented with quilts, coverlets, and probably with some sort of bolsters<sup>e</sup>. There do not appear to have been any pavilions or testors, nor were curtains anciently used in Greece. Homer makes no mention of them. They undressed when they went to bed<sup>f</sup>. Some passages in the *Iliad* and the *Odyssey* may give us room to think, that the Greeks, at the time of the war of Troy, used sheets<sup>g</sup>. But this fact appears to me so much the more doubtful, as that custom was unknown to all antiquity. We see also, that, among princes and kings, the woods of the bed were ornamented with plates of gold and silver, and pieces of ivory<sup>h</sup>. In the army, the Greeks laid upon skins spread upon the ground. They covered themselves with carpets, or other stuffs which served for blankets. They afterwards had coverlets put above all.

The form which chairs had anciently in Greece, is not well known to us. I presume that they were entirely of wood, having a plain back without arms. These chairs had always a footstool, whether they were used in the apartments for conversation, or at the table for eating<sup>i</sup>. Among the great people, they covered them with skins and purple stuffs<sup>k</sup>. The same magnificence appeared on the wood of the chairs, as on the wood of the beds<sup>l</sup>. They were elegantly wrought with many ornaments<sup>m</sup>. Such were the principal useful moveables the Greeks had any knowledge of in the heroic times.

Their moveables for luxury at that time consisted in beautiful tripods designed only to ornament the apartment; for they made no other use of them<sup>n</sup>. Let us add to them  
cisterns

<sup>e</sup> See Feith, l. 3. c. 8, p. 334.

<sup>f</sup> *Odyss.* l. 1. v. 437. &c.

<sup>g</sup> *Iliad.* l. 9. v. 657.; *Odyss.* l. 13. v. 73. l. 14. v. 519. &c.

<sup>h</sup> *Odyss.* l. 23. v. 189. &c. <sup>i</sup> Feith, l. 3. c. 11. p. 361.

<sup>k</sup> *Iliad.* l. 9. v. 657. &c. l. 10. v. 155. 156. l. 24. v. 644. &c.

<sup>l</sup> Feith, p. 297. <sup>m</sup> *Ibid.* p. 361.

<sup>n</sup> See *Iliad.* l. 9. v. 122, l. 18, v. 373. & 374.

cisterns ° and other precious vases, for the materials and workmanship. The Greeks in the heroic times had neither statues nor pictures <sup>p</sup>. It would be very difficult, not to say impossible, to explain in what manner gold, silver, ivory, and perhaps amber, were employed to decorate the inside of the palaces of which Homer speaks <sup>q</sup>. We cannot even propose conjectures upon this head. Let us therefore pass to the customs of civil life, and see, how the Greeks in the heroic ages conducted themselves in society, what were at that time the amusements, and, in a word, the manners of that nation.

The politeness of these remote times consisted in calling each person by his name <sup>r</sup>, to salute him with the right hand, and to embrace him <sup>r</sup>. They also held some obliging discourse when they first met <sup>s</sup>. One of the principal rules of civility was, when they received strangers, to wait some days before they asked the cause and the motives of their journey <sup>u</sup>. It was also polite formerly among the Greeks, to go first even into their own house <sup>x</sup>.

The men did not live habitually with the women. They were almost always shut up in their apartments <sup>y</sup>. The manners of the Greeks favour too much of the little intercourse there was between the sexes. We shall always be shocked at the grossness and indecency of the discourse of Homer's princes and heroes. There is not one action, even to their testimonies of esteem and consideration, which does not bear the impression of the barbarity which still reigned in Greece in the heroic ages. The best manner, in effect, of shewing to any one how much they honoured and esteemed him, was to serve him at table with a large

They then called *Tripods*, large vessels made in a particular manner, which I doubt whether we know at present. They gave them this name, as far as appears, because they were supported by three feet.

° Iliad. l. 23. v. 267. 268. & 270.      <sup>p</sup> See *supra*, book 2. p. 171.

<sup>q</sup> Odyss. l. 4. v. 72. & c.      <sup>r</sup> Iliad. l. 10. v. 68. & 69.

<sup>s</sup> Feith. l. 3. c. 13.      <sup>t</sup> Ibid.      <sup>u</sup> See Iliad. l. 6. v. 175. & 176.

<sup>x</sup> See Odyss. l. 1. v. 125.      <sup>y</sup> See Corn. Nepos, in præfat. p. 29.



portion of victuals, and always to pour out to him a bumper<sup>2</sup>. Such at this time is the politeness of savages<sup>2</sup>.

The Greeks had two sorts of domestics, slaves, and free people who served for the wages they gave them<sup>3</sup>. A number of these was so far from being a charge to their masters, that, on the contrary, they obtained a good deal of profit and advantage from them. They used them to keep their flocks, and to improve their lands, the only riches they almost knew in these remote times. Moreover, it was not then the custom of having domestics solely for pomp and ostentation. We do not see among the Greek princes neither porters, nor ushers, nor guards, nor masters of the ceremonies, nor valets de chambre, nor any other officers which filled the courts of the monarchs in Egypt and Asia. In the field particularly the heroes of Homer served themselves, as I have already remarked; but in the city customs were very different. Nestor and Menelaus were always served by officers<sup>4</sup> in their palaces. It was the same with the lovers of Penelope. It is seen, that, on almost all occasions, these princes were served by domestics<sup>5</sup>. Let us remark on this subject, that at that time it was the women or the girls who did for the men all the domestic offices, even those in which modesty and decency seem to be much interested. It was the women who conducted the men to bed, to the bath, who perfumed them, dressed and undressed them<sup>6</sup>. Let us farther say, that with the Greeks, in the heroic times, as at this day among the savages, the women were charged with almost all the

<sup>2</sup> See *Iliad*. l. 4. v. 261. &c. l. 7. v. 321.

<sup>3</sup> *Mœurs des sauvages*, t. I. p. 520.

<sup>4</sup> *Odyss.* l. 1. v. 398. l. 4. v. 23. 216. 217. & 644. l. 11. v. 488. l. 18. v. 356. &c. *Herod.* l. 8. n. 137.

This second sort of domestics, to speak properly, were only daily servants.

<sup>5</sup> *Odyss.* l. 3. v. 338. 339. l. 4. v. 23. 37. & 38. &c. 57. 58. 216. 217. 621. &c.

<sup>6</sup> *Ibid.* l. 1. v. 109. 110. l. 16. v. 248. & 253. l. 17. v. 331. &c. l. 18. v. 75. l. 20. v. 253. &c.

<sup>7</sup> *Iliad.* l. 1. v. 31. l. 14. v. 6. 7. l. 18. v. 559. 560.; *Odyss.* l. 1. v. 436. &c. l. 3. v. 464. l. 4. v. 49. l. 10. v. 348. &c. l. 15. v. 93. 94. l. 17. v. 88. &c. l. 19. v. 320. l. 20. v. 105. &c. v. 147. 297. 298.; *Athen.* l. 1. p. 10. E. *Catullus*, *Poem.* 62. v. 160.

laborious works of the house. They made them grind the corn, bake the bread, fetch water, clean the apartments, make the beds, light the fire <sup>f</sup>, &c. The little regard and respect for the sex has at all times characterized barbarians.

The Greeks, in the heroic ages, knew different sorts of pleasures and amusements. They had music, dancing, exercises of the body, and the games at quoit and ball. These people particularly had a great regard for music. They had on this article very different ideas from those which we have at this time. That art is only looked upon by us as a mere amusement. The Greeks considered music with a much more serious and attentive eye. They were thoroughly persuaded that it not only served to exhilarate the spirits, but even contributed greatly to form the heart. I shall content myself, among many examples of this way of thinking, to quote one of the most remarkable. Homer says, that Agamemnon, on going for Troy, had left with the Queen his wife, a musician charged with the care of the conduct of that princess. Egeïthus, adds he, could not triumph over Clytemnestra till after he had caused to be destroyed the musician whose instruction kept that princess in the path of virtue <sup>g</sup>. It was in consequence of these ideas, and the effects of music, that it attracted the principal attention of the ancient legislators. This art had, in the opinion of many people, an intimate relation and connection with manners. The fact is too well known to be insisted upon.

It appears, that, in the heroic times, the lyre was preferred to the flute. On all occasions where Homer has occasion to introduce music, he only speaks of the lyre. Some pretend that at that time the strings of this instrument were made of lint. They ground this opinion on a passage in the *Iliad*, which seems to indicate it <sup>h</sup>. But besides that the terms which the poet uses are susceptible of an explication which may equally agree with strings of

<sup>f</sup> *Id. ibid* ; Herod. l. 8. n. 137.

<sup>g</sup> *Odyss.* l. 3. v. 267. &c.

<sup>h</sup> *Schol. ad Iliad.* l. 18. v. 570.



tharm, we see by other passages, that they were known at that time <sup>i</sup>. Farther, what sound could be drawn from a flaxen string? Be this as it will, we must observe further, that the lyre was only used anciently to accompany the voice. We do not see in Homer, any person playing on that instrument without singing. They never touched it alone. The subjects of their songs were always some pieces taken from mythology or history. The time of repast was commonly that in which they chose to hear music; that is to say, a singer joined his voice with the lyre. For Homer never introduces but one musician on these occasions. They were ignorant then of the art of multiplying instruments, and of making many play together to produce an agreeable harmony; an art which, I think, was unknown to all the nations of antiquity <sup>k</sup>.

I shall not make any reflection on the dances which might have been anciently used among the Greeks, nor on the different exercises which made the favourite pleasure of that nation. We have so much written about all these objects, and they are so familiar to us, that I think I shall be excused from speaking of them. No one is ignorant that all these institutions tended to make the body more strong and active. I moreover doubt, notwithstanding the testimony of a number of authors, that, at the age of the war of Troy, they had in Greece spectacles regulated and fixed at a certain time, and at a certain place, that is to say, games which they celebrated regularly, such as were afterwards the Olympic, the Pythian, Nemean games, &c. Homer does not give us to understand so much. We only collect from the reading of his poems, that the custom then established was to celebrate games on certain occasions, where they distributed prizes of a considerable value to the conquerors <sup>l</sup>. This circumstance shews at first sight an essential difference in the recompenses, the princi-

<sup>i</sup> Odyss. l. 25. v. 406. &c.

<sup>k</sup> See les mem. de Trev. Octobre 1725, p. 1774. &c.

<sup>l</sup> See Iliad. l. 9. v. 123. &c. l. 23. v. 259.

pal object of the combatants. Those who carried away the victory in the Olympic, Pythian, Isthmian, Nemean games, had only a crown made of the branches of olive, laurel, pine, ash, &c. Glory was then the only motive that animated the combatants, and not lucre and cupidity. These motives, on the contrary, might enter mostly into the games spoken of by Homer, where the prizes consisted in slaves, horses, arms, oxen, precious vases, sums of gold and silver, &c. Lastly, the Olympic games, Pythian, &c. were celebrated at certain epochs, and constantly at the same places; but it does not appear by any passage of Homer, that, at the time of the war of Troy, there was any thing fixed or regulated about the time or place where they should celebrate the games he describes. We may nevertheless reconcile all these facts, by saying that the consecrated games of Greece established very anciently had ceased from being celebrated for a long time; an interruption which history furnishes us with many examples of<sup>m</sup>. It is not then surprising that Homer has said nothing of their celebration. But as this point of criticism would require a pretty long discussion, and besides would be of very little use, I do not think I should engage in it.

It now only remains to give a general glance on the manners of the Greeks in the heroic ages; that is to say, on their manner of thinking and acting. We may already have judged, by all that I have said, to what a degree these people were at that time barbarous and ignorant. The ferocity of their manners answered to the grossness of their minds. They had neither morals nor principles. The law of the strongest was almost the only one which they acknowledged. This anarchy forced the Greeks at that time to travel always armed, and to be perpetually in a state of defence<sup>n</sup>. In the description of the shield of Achilles, Homer represents the young men dancing with their swords on<sup>o</sup>.

<sup>m</sup> See le journal des sçavans, Fevr. 1751, p. 112. &c.

<sup>n</sup> Thucyd. l. i. p. 4. C.; Arist. de repub. l. 2. c. 8. t. 2. p. 327. B.

<sup>o</sup> Iliad. l. 18. v. 597. & 598.



They found then, in these ancient times, neither repose nor security in Greece. Robbery and licentiousness reigned every where <sup>p</sup>. It was for this reason that strength of body and courage in battle were formerly the most shining qualities which these people knew <sup>q</sup>. Wisdom, justice, probity, most part of the moral virtues, in a word, had not even names in the ancient language of the Greeks, as they still have not among the savages in America <sup>r</sup>. I dare not even affirm, that there was then in the Greek language a term which even expressed the general idea of virtue <sup>s</sup>.

Politeness was never introduced into a country but by means of letters. The most brutal vices and most prejudicial to humanity are the portion of gross and ignorant nations. Philosophy had not yet enlightened Greece at the time of the war of Troy. Thus the conduct of its inhabitants, at that time, presents to us a most dismal and hideous picture. The history of the heroic ages only affords usurpations, murders, and unheard-of crimes. It was at this epocha that all those famous criminals appeared, whose names have come down to us. There we see Theseus, Atreus, Eteocles, Alcmeon, Orestes, Eryphile, Phædra, and Clytemnestra. Almost all the princes who went before Troy, were betrayed by their wives. The kingdom of Mycenæ alone presents the most signal catastrophes. The scene each moment is imbrued with blood. The history of Pelops and his descendants is a continued series of crimes and horrors <sup>t</sup>. In

<sup>p</sup> See *supra*, b. 4. p. 315.

<sup>q</sup> See Feith. l. 14. c. 7. p. 452.

<sup>r</sup> See la Condamine, *relat. de la riviere des Amazones*, p. 54. 55.

<sup>s</sup> The word *ἀρετή*, so often used in Homer, is visibly derived from *ἀρης*, Mars, fight, and only signified originally *bravery*, or *warlike virtue*.

If afterwards the word *ἀρετή* has been used, to signify *virtue* in general, it is because for a long time the Greeks knew no other virtue but valour, which, even in the brightest ages of that nation, was always regarded as *virtue by excellence*.

I think we may say as much of the word *σοφία*, *wisdom*, which we also meet with in Homer. This term only means, with the poet, *skill* and *address* in the mechanic arts.

<sup>t</sup> See *supra*, b. 1. p. 37.

a word, the heroic ages are the times the most fruitful in incests and parricides spoken of in history \*.

After these reflections, it will, I think, be very unnecessary to stop to prove how much the praises which certain authors have thought proper to heap on the heroic times, are false and unreasonable. We may very well apply to these ages so boasted of, all that I have said of those which made the object of the first part of this work. The Greeks were at that time as ignorant, and, of consequence, as vitious as the people there spoken of could be. There passed many ages before the greatest part of the universe came out of that fatal ignorance, of which the most shameful vices and excesses were the unavoidable consequence.

\* Paus. l. 2. c. 29. p. 179.



# DISSERTATIONS.

## DISSERTATION I.

*On the names and figures of the constellations.*

I Have shewn, in treating the history of astronomy, that, in the earliest times, they had contrived to distinguish the stars more easily, to reduce many of them under one and the same group. I said also, that, from that time, they had given certain names to these different collections which we now design by the word *constellation*. The origin of these figures and of these names is, of all the questions that offer themselves about the origin of ancient practices, not only one of the most curious, but, at the same time, the most obscure and impenetrable. The different systems which they have invented to give a reason for so whimsical a custom, prove plainly the difficulty of the subject I have undertaken to treat of. It is so much the more disagreeable, as there now remain no monuments of the progress of astronomy in the first ages. We cannot therefore hope ever fully to satisfy the curiosity about a custom, the motives of which are very obscurely offered to the lights of reason. Let us endeavour nevertheless to propose some conjectures. There are three questions presented to us to be examined.

1. If the names we at this time give to the constellations can shew us those given to them originally?
2. Why they have employed preferably the names of certain objects to design the constellations?
3. What could have been the motive which directed the application of the names of these objects to certain constellations?

I shall also try to trace the origin of some whimsical expressions

expressions which they still use in the language of astronomy.

If we refer to the greatest part of the authors who have busied themselves to this time about the question which at present employs us, it is in the most early antiquity that we must look for the origin of the names and figures astronomers have made use of to design the constellations. I am far from adopting this sentiment. These institutions do not appear to me to be the work of the first observers. On the contrary, every thing leads us to think that the primitive denominations have been altered, and that the Greeks have probably introduced this change. These are the names which they have thought proper to give to the constellations which they retained; but these names most certainly are not of the first ages of astronomy<sup>a</sup>. It is true, at this time, the Arabians, the Moguls, the Tartars, and almost all the people of the east, design the signs of the zodiac by the same names with us. But we know that all these nations, except the Chinese, adopted the astronomy of the Greeks<sup>b</sup>. These people had carried them into Arabia and Persia, from whence they had passed into Mogul and Tartary. It is not then surprising to find in these countries the Greek constellations. This conformity proves nothing for the antiquity of these names<sup>\*</sup>.

But,

<sup>a</sup> These names for the most part are posterior to the expedition of the Argonauts.

<sup>b</sup> See Weidler, hist. astronom. c. 8. p. 205. & c. 10. p. 244. 245.

M. Hyde affirms it positively of the signs of the zodiac in his commentary on the tables of Ulugh-Begh, p. 4.

<sup>\*</sup> What I say here of the Greek astronomy's being received among the Arabians and the other people of the east, will at first sight appear contradictory to what I have said in the first part, p. 224. This contradiction, notwithstanding, is only apparent. The Arabians, and the other people of the east, had certainly their notions of astronomy before the time they frequented the Greeks; but, according to all appearances, their knowledge was not very perfect. The conquests of Alexander in Upper Asia, and the empire which after his death the Seleucidae established in these countries, brought on a very great commerce between the Greeks and the Asiatics. Astronomy had then made a very great progress in Greece. The Arabians, and the other nations of



But, say they, the Greeks did not invent astronomy: they learned it from the Chaldeans, the Phœnicians, and the Egyptians; it may be presumed, that they would have retained the names and figures which these people had given to constellations; and thus the tradition of the primitive customs would have been transmitted to us. This objection is not difficult to be answered.

Although the Greeks were incontestably indebted for the greatest part of their astronomical knowledge, to the Chaldeans, the Phœnicians, and the Egyptians, they had nevertheless strangely altered the symbols by which these people had designed the constellations. The Greeks had formed a particular zodiac. The names by which they designed the constellations, were not those made use of by the ancient nations. Let us hear what the authors of antiquity have said on this subject.

Firmicus says positively, that the sphere of the Barbarians, that is to say, the people of Egypt and Chaldea, was entirely different from that of the Greeks and the Romans. Many other writers speak also of the difference there was between the Greek and the Egyptian zodiac. The names of the constellations, among these two nations, had no resemblance<sup>c</sup>. In the Egyptian sphere they neither knew the name nor the figure of the *Dragon*, of *Cepheus*, of *Andromeda*, &c. The Egyptians had given to that collection of stars which composed these constellations among the Greeks, other figures and other names<sup>d</sup>. It is the same with the Chaldeans<sup>e</sup>. The eastern people had never known Gemini (Castor and Pollux), which the Greeks had made

whom we have just spoke, profited by these discoveries, and, in consequence, adopted the terms and the figures received in the Greek astronomy.

<sup>c</sup> See Salmas. de ann. climat. p. 594.

<sup>d</sup> Achill. Tat. isag. c. 39. See also Plut. de Iside & Osiride, p. 539.

<sup>e</sup> Achill. Tat. loco cit.

All that we have here said from the ancients about the difference there was between the sphere of the Greeks and that of the ancient nations, should be understood with some restriction. We will explain a little after the sense in which we think these words should be taken.

the third sign of the zodiac <sup>r</sup>. In effect, there now remain to us almost none of the names which the first inhabitants of Arabia originally gave to the constellations; but, from the little which is preserved, we see that they must have been different from those by which we design them at this time <sup>s</sup>. After these facts, it remains to examine, what could have been the primitive custom, and for what reason the constellations have been designed among all people by denominations so whimsical, and so remote from the figure which they have in the heavens.

Do not the stars present themselves with the same arrangement to all eyes? Is not their disposition the same for all climates? Yes, without doubt. But in all climates they have not looked upon them with the same eyes; I mean, that all the people have not observed a uniform plan to group the stars. The forms under which they have reduced these stars, having been very different, the number and form of the constellations, of consequence, must have varied in each country. It is for this reason that the Indians reckon in the zodiac twenty-seven constellations, and the Chinese twenty-eight <sup>t</sup>. There are even among these last constellations which are only composed of one star <sup>\*</sup>.

If we remark a great variety in the number, and in the form of the constellations among the different people of this universe, it is not less perceptible in the names by which they have thought proper to design them. If we run over all the nations, even the most savage ones, we shall see that they knew some constellations, and that they have given names to them, which are all relative to certain sensible objects. Yet nothing is less uniform than the objects to which each nation has resembled the constellations. Whence comes the agreement of so many nations, who certainly have had no commerce with each other, to design

<sup>r</sup> Herodotus affirms it of the Egyptians. l. 2. n. 43. See also Hyde, hist. relig. vet. Persar. c. 32. p. 591.

<sup>s</sup> See Hyde in tab. Ulugh-Begh.

<sup>t</sup> See les observat. math. astron. &c. faites aux Indes, & à la Chine, publiées par le P. Souciet, t. 1. p. 243.

<sup>\*</sup> The first constellation of the Chinese zodiac, called *Kio*, which means a *horn*, is only composed of one star.



the constellations by denominations which have no relation with their arrangement in the heavens? How could it have happened, that they should all be united in a practice so much the more extraordinary, as it is less natural? Before we enter into any discussion, I think it is proper to distinguish the times.

We have here two objects to consider; the names which they had given primitively to the constellations, and those by which we design them at present. The origin of these last is very ancient. But I have already said, that we should not attribute their invention to the first ages of astronomy. These denominations have not relation enough with the apparent disposition of the greatest number of stars. I cannot persuade myself, that the first men can be said to have seen in the collections of stars of which they formed the constellations, the resemblance of the greatest part of the figures by which they design them at this time among almost all nations. They must have used originally some method different from that which remains to us. It is this primitive practice which we must endeavour to find out, and explain at the same time the origin of that which we use at present.

The first denominations must have been extremely simple, and relative to the object which they would design. If we could hope to find any traces of these primitive customs, it is among the savages in America that we must search for them. These people, before the arrival of the Europeans, knew some constellations, and had given names to them. Let us examine the signification of these names, and the ideas which they had annexed to them.

The Iroquois knew *Ursa Major*. They called it *Okouari*<sup>i</sup>, that is to say, Bear; a denomination, the motives of which are very easy to penetrate into, as we shall see in a moment. With respect to *Ursa Minor*, it does not appear that these people had given a name to that constellation. It is only the polar star which had attracted their attention<sup>k</sup>. It was it which directed them in their voyages. They had need of such a guide, lest they should be lost in the vast

<sup>i</sup> Mœurs des sauvag. t. 2. p. 236.

<sup>k</sup> Ibid. p. 239.

countries in the continent of America. The name which they had given to that star is very simple. They named it, *Iate ouattentio, that which does not move*<sup>1</sup>. This denomination is founded on this, that the motion of that star is insensible, and that it appears always fixed in the same point.

The people of Greenland know not only the polar star, but even all the constellations of Urfa Minor. They call it *Kaumorsok*. This name in their language has an immediate relation to the use which they make of this constellation. These people get a great part of their subsistence from sea-dogs. It is only by night that they can take these amphibious creatures. The appearance of the north star is an advertisement to the Greenlanders to get ready to go and hunt the sea-dogs. Thus the name *Kaumorsok* which they give to Urfa Minor, signifies in their tongue, *Some one is gone out to take the sea-dogs*<sup>m</sup>.

We remark also in the name which these people give to the Pleiades, a very striking relation with the figure which that constellation presents to the eyes. They call the Pleiades *Killukturfet*, which means *tied together*<sup>n</sup>. In effect, these stars touch so nearly in appearance, that they seem to be fixed to each other.

We may say as much of the stars which compose the head of the Bull. They represent well enough the form of the head of that quadruped. This resemblance is even so striking, that the most savage people have caught it. The nations which dwell along the river Amazon, call the

<sup>1</sup> Mœurs des sauvag. t. 2. p. 239.

<sup>m</sup> Hist. nat. de l'Islande, & du Greenland, t. 2. p. 224. 225.

The author from whom I have taken this fact says, that the name of *Kaumorsok* given by the Greenlanders to the north star, comes from this, because that star appears to come out and rise from the sea. His mind was certainly travelling under the equator when he writ that. I leave it to be judged if one could say this, for the people who are situated in 70 degrees of north latitude, that the polar star seems to come out and rise from the sea.

<sup>n</sup> Ibid. p. 225.



Hyades *Tapiira*, *Rayouba*, a name which signifies at this time, in their language, the *chops of the ox* °.

That long white train which traverses the whole heavens, has received also, among most nations, a denomination very conformable to the object which it represents. The Greeks have called it *galaxy*, or *milky way*, on account of its whiteness. The Chinese call it *Tien-ho*, the *celestial river*. Many nations have called it the *great road* †. The savages of North America design it by the name of *the road of souls* ‡. The peasants in France call it *the road of St James*.

It is also probable enough, that the two shining stars in the head of Gemini might be designed by two similar objects. The Greeks gave them the name of the two famous brothers, Castor and Pollux. They pretend, that in the ancient sphere this constellation was designed by two kids †. The Arabians had placed there originally two peacocks. All these denominations are very natural, as these two stars spoken of, are the most remarkable of all those which are discovered in that part of the heavens; and as they are nearly of the same magnitude and brilliancy, they have tried to design them by similar objects.

The Chinese may also supply us with some lights on the question we have endeavoured to elucidate. The origin of Astronomy among that people ascends to a very remote antiquity. We know that the Chinese were a long time without borrowing any thing either from the people of Asia or Europe †. The expressions used in the Chinese a-

° Relat. de la riviere des Amazones par M. de la Condamine, dans les mem. de l'acad. des scienc. ann. 1745, M. p. 447.

About the word *Tapiira Rayouba* which signifies at this time among the Indians *the chops of the ox*, M. de la Condamine adds, I say at this time, because that word signified formerly the chops of the *Tapiira*, an animal proper to the country; but since they have transported the European cattle into America, the Brasilians and the Peruvians have applied to these animals, the names which they gave in their mother-tongue to the largest of quadrupeds they knew before the coming of the Europeans.

† See le comment. de Hyde sur les tables d'Ulug-Begh, p. 23.

‡ Mœurs des sauvag. t. I. p. 406.

† Hyde. hist. relig. veter. Persar. c. 32. p. 391.

† See les observat. mathematiques-astronomiques faites aux Ind. & à la Chine, publiées par le P. Souciet, t. I. p. 3. 4. & 5.

Astronomy may then give us some idea of the primitive denominations which are at present the object of our researches, so much the more as these people were attached, if one may say so, even to a fault, to their ancient practices. The Chinese call, for example, the zodiac *Hoang-tao*, the *yellow road*. This denomination is natural enough. We there see a sensible relation to the annual course of the sun, which he performs in the circle of the sphere. The name of zodiac which we give to it after the Greeks, has not so much conformity with the phænomena which it presents to the eyes. Thus the term zodiac is recent enough even in the Greek language. It certainly was not in the first ages of their astronomy. It is not seen, that ancient authors have used it. Yet the Greeks were not, till the time that name was introduced among them, without knowing the proper motion of the sun, and without having a word in their language to design the circle which that star seems to go over in the heavens. I shall be strongly led to believe, that, in the first times, the zodiac had been designed by the name and emblem of *a girdle* which surrounds the heavens. This is the term which many nations, and particularly the Arabians and most of the people of the east, still use to express the circle of the sphere<sup>1</sup>.

I also think; that the constellations, under which the moon and the sun pass, have not been originally designed by the names *Aries*, *Taurus*, and *Leo*, &c. It is more natural to believe, that they at first called these collections of stars, the *lodgings* or the *houses* of the moon and of the sun. It is thus that many nations of the greatest antiquity have designed the signs of the zodiac<sup>2</sup>.

<sup>1</sup> See le comment. de M. Hyde sur les tables d'Ulug-Begh, p. 30. See also Les notes sur Aulugelle, l. 13. c. 9. p. 669. not. (8). edit. in 8° de 1666.

<sup>2</sup> See Hyde, sur les tables d'Ulug Begh, p. 30.

The Chinese word *sou*, which we translate *constellation*, does not answer, in the Chinese idiom, to the idea which the constellation gives in our language. The groups of stars which the Europeans design by the word *constellation*, are called by the Chinese *lodging*, *inn*, a denomination conformable to the ideas they must have originally formed of the signs of the zodiac.



But, say they, how could it happen that so simple and natural a practice should degenerate into customs so whimsical as that which we follow? a custom, moreover, which ascends to a very remote antiquity. This is the manner in which, I conjecture, the change may have happened.

Astronomy could have made no progress, if, in the most early times, they had not taken care to couch in writing the different observations they had made. This must be presumed then, though we have no direct proof of it at this time. We have seen in the first part of this work, that people were a considerable time without knowing alphabetic writing\*. We have also seen there, that hieroglyphics were anciently the means they most generally practised to preserve the memory of facts, of sciences, and discoveries, &c. It cannot be doubted that they made use of this sort of writing to ascertain the first astronomical observations. Nothing is more common in hieroglyphic writing, than the representations of men, of animals, &c. It is known, that these representations often have a very oblique relation to the objects they were designed for. May it not then be suspected, that, in these hieroglyphic figures, we should look for the origin of those whimsical names the constellations have among all nations?

It is more than probable, that, on the recital of their observations, the first astronomers joined the design of the constellations which they spoke of. But that design, probably, had no resemblance to those which modern astronomy uses. The first men used the first manner, which the Chinese still use at this time. These people had given names to constellations, and these names were relative to certain figures. These figures, nevertheless, are not designed on their planispheres. The representations of constellations were only expressed by lines which joined the stars to each other, according to the different forms to which the Chinese had reduced them. They writ on

\* Book 2. chap. 6.

the side of these assemblages, the name of each star, and of each constellations *v*. This method is much more simple than that which we use. In our planispheres, the figures by which we design the constellations are drawn, and the stars of which each constellation is composed, are arranged on those figures. I think, that in the early times they used a quite different method. The ancient astronomers had probably represented the constellations in the taste which the Chinese had represented them, that is to say, without any figure, only joining together, by right lines, the stars which compose each constellation. I also presume, that, to avoid errors and ambiguities, the first observers writ the name of each of the constellations on the side of its representation ; but that name, as I have just said, was wrote in hieroglyphics. Let us examine the effect which this practice could produce in the succession of ages.

The first way of writing astronomical observations, by drawing each constellation of which they would speak, would become very troublesome when the number of them was multiplied to a certain degree. They would then endeavour to shorten the work. It is natural to believe, that they would insensibly suppress the representations. They would be content to design the constellations of which they would speak, by the hieroglyphical symbol of their name. Thus, when they would, for example, design the constellation which we now call *Taurus*, supposing that a bull was formerly the hieroglyphic symbol of the name which they had given to that collection of stars, they would have drawn a bull ; so of others. From this

*v* See Bianchini, la istor. univ. p. 283. ; Acad. des inscript. t. 18. mem. p. 271.

I have seen a Chinese planisphere ingraved at Pekin, perfectly conformable to that spoken of by M. Bianchini. It is difficult enough to know the constellations, considering that the position of the stars is very inexact, and very defective ; but otherwise, this manner of grouping the constellations is infinitely preferable to that we follow at present, and which we had from the Greeks : by this means we find the constellations much more easily.



custom, it has happened, that the constellations insensibly have taken the name of the principal symbols which have served originally to write the name which they had at first given to these collections of stars, and that at last they had lost sight of the primitive denominations.

From hence, I think, we should search for the origin and the causes of these whimsical names which the constellations have among all nations. For though in early times hieroglyphic writing was the only means men knew of to paint their thoughts, yet it is not probable, that the way of using that sort of writing was uniform. Each nation had its particular symbols. The denominations, for this reason, must have varied according to the difference of symbols. It must, of consequence, have happened, that the constellations received different names, according to the different symbols which each nation used to write these ideas; and this is what is proved by the little that remains to us on this subject. We have already seen the difference there was between the Greek planispheres and those of the Egyptians and Chaldeans. These differences are still more remarkable in the names which the inhabitants of Mogul and China give to the constellations<sup>2</sup>.

If we had the key of this first writing, we should know why certain constellations have received the name of certain objects preferably to others. What may be conjectured, is, as I have already said, that the representations of these objects joined probably to some other marks, have been employed originally to preserve the first observations made on these constellations.

It is not even absolutely impossible to penetrate the motives of some of these symbols. We see at first, that animated beings have been the symbol the most generally and the most frequently used.

Although it cannot be decided precisely, what sort of an animal that is by which Job designs the constellation which

<sup>2</sup> See les observations astronom. &c. faites aux Indes & à la Chine, publiées par le P. Souciet, t. 1. p. 247. & acta erudit. Lips. anno 1711, p. 387.

he calls *Aifch*; it is not lefs certain, that this word fignifies an animal, and probably a quadruped<sup>a</sup>. It is equally certain, that the people of Egypt, of Chaldea, and of Greece agree to design the conftellations by living beings. What I am going to fay of the practice of the favages, will make this truth ftill more vifible.

The people of North America knew fome conftellations before the coming of the Europeans. They designed them by the names of men and animals<sup>b</sup>. The nations which border on the river of the Amazones, had attention to feveral fixed ftars. To diftinguifh them, they have given them the names of animals<sup>c</sup>.

We may join to all thefe barbarous and favage nations, the inhabitants of Greenland. It is by the name of a quadruped they design *Urfa Major*. They call that conftellation *Tugta*, as much as to fay, *Rein-deer*<sup>d</sup>. Let us now inquire, for what reafon they have preferred living beings to every other object, to design the conftellations.

The firft aftronomers had perceived that the ftars had a very vifible and daily motion. To exprefs the motion of the ftars in hieroglyphics, they would naturally chufe the fymbol of a living and moving being. By following thefe firft hints, we fhall fee that this explication may have had place with refpect to many conftellations.

For example, one may give a reafon for thofe motives which may have determined certain nations to have made ufe of the fymbol of a *Bear*, preferably to every other object, to design the north ftars. The ancient aftronomers faw the ftars which compofed the conftellation of the *Bear* always to the north. The moft remarkable animal to be met with in thefe countries is the *Bear*. They would therefore very naturally make ufe of that animal, to design the ufe of thefe ftars. Thus we alfo fee, that the fa-

<sup>a</sup> See our difertation on the conftellations fpooken of in Job.

<sup>b</sup> Mœurs des fauvag. t. 2. p. 236. & 238. t. 1. p. 410.

<sup>c</sup> Mem. de l'acad. des fcienc. ann. 1745, m. p. 447.

<sup>d</sup> Hift. nat. de Piflande et du Groenland, t. 2. p. 223.



vages of North America, who use hieroglyphic writing, call this constellation the *Bear* <sup>c</sup>.

It is easy also to shew, why that constellation bears the same name among the Greeks. These people, as has been said elsewhere, had received from Prometheus their first astronomical knowledge. This prince, as far as history teaches us, made his observations on Mount Caucasus. The motives I have just hinted, would, without doubt, lead him to use the emblem of the *Bear*, to design the principal constellation of the north. The Greeks, who had received from Prometheus the first elements of astronomy, preserved that ancient denomination, and have transmitted it to us, but in their way, that is to say, by joining to it many fables relative to the history of their country.

By means of this explication, we easily see, why, in the Egyptian and Chaldean sphere, we find neither the name nor the figure of a bear <sup>f</sup>. There is no reason to think, that in the first times the Egyptians had knowledge enough of the countries of the north, to be informed that the bear was the most common animal in these countries. It is not then surprising that they made use of other symbols to design the stars near the pole <sup>\*</sup>. We may apply what I have just said of the Egyptians with as much reason to the Chaldeans.

Now, it is easy to conceive, from what motives many nations have designed the same constellations by different symbols. These signs have varied relatively to the ideas

<sup>c</sup> *Supra*, p. 398.

<sup>f</sup> *Ubi supra*, p. 396.

<sup>\*</sup> Scaliger in Manil. p. 334. says, after Probus, that, in the sphere of the barbarians, that is to say, of the people of Egypt and Chaldea, the polar stars were designed by the symbol of a *chariot*.

We may, I think, confirm this testimony by that of Homer. We see, in effect, that this poet names this collection of stars, *The Bear*; but he teaches us at the same time, that they also called this constellation the *chariot*. Iliad. l. 18. v. 487; Odyss. l. 5. v. 273.

Should we not believe that it was from the Egyptians that the Greeks had learned this denomination? In effect, from the manner in which Homer expresses himself, it appears, that the name of *chariot*, given to the polar stars, was not so ancient as that of *bear*, introduced into Greece by Prometheus. It is certain, moreover, from the testimony of all the writers of antiquity, that the Greek astronomy was a composition of the Asiatic and Egyptian astronomy.

these people had formed of the constellations. Nevertheless, it appears in antiquity, they have agreed sufficiently to represent constellations by the same symbols. We see, for example, that the Chaldeans, the Arabians, the Persians, the Greeks, &c. have designed the emblem of a giant, to represent the constellation of Orion\*. We should attribute, without doubt, this uniformity of choice, to the great space of the heavenly ground which that constellation occupies.

It is also very probable, that the constellation of the Bull was originally designed by the symbol of that animal. I have said, that by the manner in which the stars of the Bull are disposed, they represent well enough the form of the head of a quadruped<sup>b</sup>. We have also seen, that the savages of South America have given to that constellation the name of *The chops of the ox*<sup>c</sup>. We may then think, that, for the design of that collection of stars, they would chuse an animal whose figure had the greatest resemblance to these stars in the firmament.

There is also great appearance, that the dragons, the hydras, the serpents, and the rivers, have only been invented and introduced into the heavens, with a view to collect under one figure a considerable series of stars. We might extend this plan of analogy to many other constellations; but this is enough, and even perhaps too much, for conjectures.

It appears to me then probable, to attribute to the symbols of hieroglyphic writing, the origin of the whimsical figures and names used to design the constellations. I also do not doubt, that these same symbols have given rise to all the ridiculous tales which have been propagated about the celestial signs. They lost insensibly the view of the motives of these first denominations. Then the people gave a loose to their imagination. The Greeks furnish us a convincing proof of it.

\* Chron. Paschal. p. 36. A.; Hyde, comment. in tabul. Ulug-Begh, p. 314.; Homer. Odyss. l. II. v. 571.

<sup>b</sup> *Supra*, p. 399.

<sup>c</sup> *Supra*, p. 402.



These people had received from Asia and Egypt the first principles of astronomy. It is to be believed, that the Asiatics and the Egyptians had communicated to them at the same time, the terms which they had consecrated to that science. But whether the colonies of Asia and Egypt did not explain to the Greeks the origin and motives of these names, or, what is more probable, the Greeks did not think proper to retain them. These symbols presented to them too good an opportunity of exercising the fecundity of their imagination to let it slip: they found in it a double advantage, that of uttering marvellous fictions, which have always had a singular attractive with that people; the other, of satisfying their vanity. For the reigning passion of the Greeks has always been, to pass as the inventors of arts and sciences.

They did the same then with respect to the names and symbols by which the colonies of Asia and Egypt had taught them to design the constellations, as they had done with regard to all the ancient traditions they had drawn from the eastern nations. They changed the symbols by which these people had designed the constellations. For the names and figures which the constellations had in the east, the Greeks substituted most of their heroes and other famous personages. It is in this consists the difference that is remarked, according to the testimony of the ancients, between the sphere of the Greeks and that of other nations. For it must not be thought, that that difference regarded the arrangement and number of constellations. The contrary is proved to us by too many testimonies to be doubted of. The Greeks did not form the constellations. They were indebted for that knowledge to the eastern nations\*. But

\* Among an infinity of testimonies which I could cite, I shall only mention that of Seneca. That philosopher says, that, in his time, it was not 1500 years that the Greeks had given names to the constellations. *Nat. Quæst.* l. 7. c. 25. p. 387. Astronomy had already flourished a long time in Egypt and Asia, and then came with the colonies from these countries to pass into Greece. But the epocha designed by Seneca, and which falls about 1400 years before J. C. is that in which the Greeks deified most of their heroes.

in preserving the substance of the primitive symbols, they had altered them by introducing considerable differences as well in the names as in the figures.

For example, the Egyptians had designed the constellation Cepheus by a man, and that of Andromeda by a woman. The Greeks thought proper to accommodate these symbols to their ideas, to make of it a king and a princess of Ethiopia; and, by a necessary consequence, to change the attitude, the dress, and the name which these figures bore in the Egyptian planispheres. So of others. With respect to the symbols which the Greeks only changed a little, their origin was not less disguised by the fables they invented to explain the motives of their institution. This is the source of all the absurd tales which the writers of that nation have propagated about the origin of the zodiac and other constellations\*. The more obscure the subject was, the greater scope was given to their imagination. It would be losing time then to look for, in the early times, the origin of the names and figures by which we at this time design the constellations. These symbols have suffered too great a change, by passing through the hands of the Greeks, for us to be certain at this time of the true motives which had determined the choice. It is certain, that this practice ascends to the earliest ages of astronomy; but we must attribute to the vanity of the Greeks, and to the taste which they always had for fables, the uncertainty and obscurity there is about the origin of a custom adopted in practice by all the nations of the universe.

Further, the conjectures which I propose about the changes introduced by the Greeks in the symbols which the astronomers in the east made use of to design the constellations, are not totally void of foundation. We frequently find in the Egyptian monuments, many figures of the celestial

\* See Salmaf. de ann. climact. p. 592. 593. & seq.



signs<sup>1</sup>. We there still recognise the vestiges of usages practised by the first authors of astronomy \*.

For the rest, the Greeks have not been the only ones to whom the primitive denominations of the constellations have furnished a subject for many absurd tales. We have before seen, that the savages of North America knew the constellations of their pole, and that they called *Urfa Major Okouari*, which in their language signifies a *Bear*. Their imagination busied itself very much about the name of that constellation. They said, that the three stars which composed the tail of *Urfa Major*, were three hunters who pursued him. The second of these stars is accompanied with a very small one which is very near it. That, say they, is the hamper of the second of the hunters to carry the baggage and provision<sup>m</sup>. They pretend, that the savages of *Gaspésie* knew not only *Urfa Major*, but also *Urfa Minor*. The tales which they have forged about this last constellation, are not less ridiculous<sup>n</sup>.

I still think to find from this source, that is to say, in hieroglyphic writing, the origin of some whimsical terms which have obtained a long time in the astronomical language.

<sup>1</sup> See Bianchini, *la istor. univer.* p. III.

\* What we have advanced would even be absolutely without doubt, if we might refer to P. Kircher. That vast compiler has given a figure of a planisphere which he pretends to be that of the ancient Egyptians. On comparing with it that of the Greeks, which is also ours, he shews, that there is only the difference between them that we have remarked. *Oedip. Egypt.* t. 2. p. 2. class. 7. sect. 7. c. 1. & 2. p. 160. & 206.

But this is not the only time that we have seen the necessity of suspecting the systems propagated by P. Kircher. The planisphere of which we speak, appears to me very suspicious. I would so much the less warrant the antiquity and authenticity of it, as we see there constellations represented by symbols, which we certainly know were not used in the celestial globe of the ancient Egyptians, such as *Urfa*, *Draco*, *Libra*, and *Gemini*. But even supposing the authenticity of the planisphere in question, it would still be necessary to inquire into the age of this monument. For since the reign of the Ptolemies it is not to be doubted, that the Egyptian astronomy has favoured much of the expressions and figures of the Greek astronomy. It could only then have happened from the discovery of an Egyptian planisphere, constructed before the reign of the Ptolemies, that could have instructed us with certainty of the symbols used by the ancient Egyptians to design the constellations.

<sup>m</sup> *Mœurs des sauvages*, t. 2. p. 236. & 238.

<sup>n</sup> See *ibid.*

Our ancient astronomers called the *head* and *tail* of the *Dragon*, the two points of intersection of the ecliptic and of the orbit of the moon. They named the *belly of the Dragon*, that part of these circles where they find the greatest latitude of that planet\*. Is there any thing more whimsical than this denomination? What relation is there between a dragon, a chimerical animal, and the celestial phænomena? But by recalling the manner in which the ancient nations writ their astronomical observations, we shall perceive in that expression a remnant of the ancient denomination, which owed its origin to hieroglyphics. The Egyptians designed age, time, by the form of a serpent, which by biting the tail made a circle †. It even appears, that this figure of a serpent was not a true one. For the Greeks, in translating the name which that reptile had in the Egyptian language, have rendered it by that of basilisk, as fabulous an animal as the dragon ‡. Thus to represent the world, the Egyptians painted a serpent covered with scales of different colours, rolled about himself. We know by the interpretation that Horus-Apollo gives to the Egyptian hieroglyphics, that, in this style, the scales of a serpent represented the stars with which the heavens are sown §. We learn also from Clemens Alexandrinus, that the Egyptians designed the oblique motion of the stars, by the twisted folds of a serpent ¶.

The Egyptians moreover have not been the first who used the emblem of a serpent to design the course the sun makes in running through the twelve signs of the zodiac.

Among the Persians and many other nations, Mithras was the same as the sun §. In all the monuments which now remain to us of this god, we perceive among many other emblems some signs of the zodiac, some stars very plainly marked, with the planets or at least their symbols. One

\* It is only in these points of intersection that eclipses are made.

† Hor. Apollo. l. 1. c. 1.

‡ Ibid.

§ Ibid.

¶ Strom. l. 5. p. 657.

M. Cuper has proved by an infinity of reasons, that Harpocrates is the sun. We see under many representations of this god, a serpent embracing a demi-column, and forming about it many twisted folds. There is no doubt, that this reptile was intended in these representations to design the obliquity of the ecliptic. See *Perplication des fables* par l'Abbé Banier, t. 2. p. 256.

§ Banier, *ibid.* t. 3. p. 156.



cannot help regarding these bas-reliefs as a sort of celestial planispheres<sup>t</sup>. Every thing evidently declares, that they had an intention to represent the revolutions of the sun, of the planets, and of the fixed stars. Here is what Celsus said of them, according to the report of Origen. “We see,” says he, “in the doctrine of the Persians, and in the mysteries of their Mithras, the symbol of two celestial periods, of that of the fixed stars, and that of the planets, and of the passage the soul makes by these.” We should then look upon all these representations as the remains of ancient hieroglyphic writing.

Among many of these representations of Mithras, there is one in particular very complicated. I shall not undertake to give the description of it. I shall only speak of the crowning of this bas-relief. It is very singular. It is a series of figures on the same line, of which the first is a sun shining with his rays, and mounted on a car drawn by four horses which appear greatly agitated, and look towards the four parts of the world. Near the car is a naked man, a serpent twisted into four folds, from the feet to the head. We afterwards see three burning altars, and among these altars three large square vials, afterwards another naked man twisted about by a serpent like the former. We find these four altars with as many vials. The moon upon her car, drawn by two horses, which appear extremely fatigued, terminates these figures. The inspection alone of this monument announces, that they meant to describe there the course of the stars. We see, that the spirals which result from the combination of the diurnal motion of the sun, with his motion of declination, are designed under the emblem of these two figures twisted about with serpents<sup>u</sup>.

The use that many other nations made of this symbol, is attested by a number of monuments, in a manner so po-

<sup>t</sup> Bannier, *ibid.* t. 3. p. 156.

<sup>u</sup> Origen *contra Celsum*, l. 6. p. 290.

<sup>z</sup> Bannier, *explicat. des fables*, t. 3. p. 171. 180. 183.

sitive, that there can no doubt remain on this subject<sup>y</sup>. Among a great number which one might make use of, there is none more striking than the trunk of a statue found at Arles in the year 1698. The body of that figure is twisted with a serpent which makes four turns, although there appear only three in the front. The spaces formed by the windings of the serpent, are taken up by the signs of the zodiac\*. It is not to be doubted, that they would represent by this emblem, the passage of the sun through the twelve signs, and his diurnal motion from one tropic to another, which, in appearance, he makes by spiral lines.

We find, even among the nations of America, the symbol of a serpent, to design the revolution of the stars. The Mexicans, as we have seen<sup>z</sup>, express their thoughts by hieroglyphics. It was in this manner that their cycle and year were represented. A wheel painted of many colours contained the space of a cycle distinguished by years. Their cycle was of fifty-two solar years. Four indictions, of 13 years each, form the division of the wheel, and answer to the four points of the horizon. A serpent surrounded this wheel, and marked there by his knots the four divisions<sup>a</sup>.

It is then certain, that they used hieroglyphics to preserve the first astronomical observations. We have seen in the first part of this work, that all the mysteries which they pretended to have found in hieroglyphics, are only chimeras. These symbols used by all nations, were only a sort of very rude and very defective writing. Nothing hinders us to believe, that these are the same symbols which have afterwards given birth to a number of singular expressions used in astronomy.

Yet what can have given room to that intimate persuasion, in which all the ancient people were, and which still subsists at this time among almost all the nations of the east, and even among the savages in America, that the

<sup>y</sup> Bannier explicat. des fables, t. 5. p. 493. &c.

\* We may see this figure, and the explication given by P. Montfaucon, *Antiquité expliquée*, t. 1. part 2. p. 370. planche 215. fig. 3.

<sup>z</sup> Part 1. b. 2. c. 6. p. 174. & 175.

<sup>a</sup> Gemelli has given this figure of the cycle of the Mexicans with his explication. *Giro del mondo*, t. 6. c. 5.



eclipses of the moon are occasioned by a dragon which would devour that star? The fear they are in brings them to make the greatest noise they can, to frighten the monster, and make him quit his prize. Ought we not to put this ridiculous opinion in the number of those philosophical expressions, which, being ill interpreted by the people, have given birth to a number of very absurd fables? Did it not come from this, that originally to design the periodical circle of the moon, they used the emblem of a dragon, whose head was placed at the point where that circle cuts the ecliptic, because it is always at that point, or at its opposite that the eclipses of the sun are made? What we have just seen about the serpent used by the Egyptians and other nations, in their astronomical hieroglyphics, has engaged me to propose this conjecture. When alphabetical writing was introduced among policed nations, the ancient manner of writing was abolished; but the denominations which they had occasioned, have always subsisted, particularly with regard to many objects of the sciences.

One last reflection, in a word, which proves to us how little able we are to judge at this time of original practices, is, that we are nowise certain that the names of the figures used in our astronomy, were the same in the first ages of Greece. Every thing, on the contrary, proves to us, that the names and the figures of the constellations had been changed among these people. I shall speak of it in the following books.

There only now remains a word to be said of the origin of the astronomical characters by which we design the signs of the zodiac. Some authors will have it, that the Egyptians were the inventors of them. A modern critic pretends, that he discovers there, even at this time, traces of the Egyptian origin. These are, according to this author, vestiges of curiological hieroglyphics, reduced to a character of common writing like that of the Chinese. This distinguishes itself more particularly, says he, in the astronomical

nomical characters of Aries, Taurus, Gemini, Libra, and Aquarius <sup>b</sup>.

I do not look upon this observation as a convincing proof, that we should ascribe to Egypt the institution of the astronomical characters of the zodiac. First, there are authors who attribute this invention equally to the Chaldeans and Egyptians <sup>c</sup>. In the second place, the astronomical symbols by which we at this time design Gemini and Libra, surely do not come from these last. We have seen, that these people did not know Castor and Pollux, which the Greeks have put for the third sign of their zodiac. The same reflection has place with reference to the astronomical character of Libra. The ancient astronomers of Egypt could not have been the authors. In the ancient sphere, the signs of Virgo and Scorpio immediately follow them. Scorpio alone took up the space of two signs. The forceps or pincers made the sign which afterwards was designed by Libra, and that constellation was not introduced into the heavens until the time of Augustus <sup>d</sup>.

It may be thought, it is true, that astronomy having had its birth in the east, it should also have been from these people, that the manner of designing the constellations of the zodiac by symbolical characters should have come to us. These characters then should be looked upon as the remains of the ancient hieroglyphical writing; but it is precisely for this reason that its origin may be equally attributed to the Chaldeans and the Egyptians.

These characters, moreover, have suffered great alteration. We see considerable differences between the figures which we use at this time, and those used by the ancient astronomers <sup>e</sup>.

<sup>b</sup> Essai sur les hieroglyphes des Egyptiens, p. 285.

<sup>c</sup> Hygin. *apud* Kircher, Oedip. Egypt. t. 2. class. 7. c. 6. p. 196.

<sup>d</sup> See Servius, *ad* Georg. l. i. v. 33.

<sup>e</sup> We may see the figure of these astronomical characters in Salmas. *Plin. exercit.* p. 135. & seq.

M. Huet has also caused them to be engraved in his remarks on Manilius, p. 80.



## DISSERTATION II.

*On the names of the Planets.*

**W**E must believe that men, as soon as they had any knowledge of the planets, thought of distinguishing each by a proper name. There has been great variety on this subject among the ancient nations. It will not be easy to give a reason for all the different names given to the planets in antiquity. Those by which we now design them came to us from the Romans. These people notwithstanding were not the authors of these denominations; they had borrowed them from the Greeks, and had applied to the planets the names, which, in their language, answered to those which the Greeks used to design these stars. That was those of their principal divinities.

But these names are not of the first antiquity. They could not take place before the times, in which the people having decreed to their heroes divine honours, thought of placing them in the heavens. It was then that they gave to the planets the names of the principal divinities which they adored, and which they made the same with the objects of their worship. This custom, farther, could not have been introduced till some time after the birth of these new divinities. Their apotheosis, it is true, followed from the instant of their death<sup>a</sup>; but still it must have happened that these new worships must have been established and known, to have changed the primitive names of the planets. Yet it cannot be supposed that the people would stay till the time of these deifications, without giving names to the stars which they had observed. The contrary indeed is proved by history. Though, in process of time, they have often confounded the sun with Apollo, and the moon with Diana, it is certain, that in the ancient mythology

<sup>a</sup> Essai sur les hieroglyphes des Egyptiens, t. I. p. 312. & seq.

these objects were plainly distinguished <sup>b</sup>. It is then proved, that they had given originally to the planets other names than those of the divinities, by which they designed them afterwards. It is these first denominations that it is proper to inquire after.

Every thing leads us to think, that the first observators designed the planets by names which had an immediate relation to the most sensible qualities of these stars. In this respect, they had nothing to do but to follow the practice of these ancient times. We are not ignorant, that, in the first ages, each name expressed the nature and the properties which they attributed to the object denominated. The names by which the sun and the moon are designed in the sacred books, express the known qualities of these planets. The sun is called *Schemes* and *Kammah* <sup>c</sup>. These two names have an immediate relation to the most sensible qualities of that star. The one, *Schemes*, designs his brightness and his splendor; the other expresses his heat and activity <sup>\*</sup>. The moon is named *Labanah*, a denomination which was given to her from her colour <sup>d</sup>.

The Assyrians and Babylonians originally named the sun *Adad*, that is to say, *singular* <sup>e</sup>; a denomination founded on this, that none of the stars are comparable in lustre and utility to him. The Phrygians, a very ancient people,

<sup>b</sup> See le Clerc. not. in Hesiod. Theog. p. 68. & 128. ; Bannier, explicat. des fables, t. 4. p. 140. 162. 164. 208. & seq.

<sup>c</sup> שמש et חמה Genes. c. 37. v. 9. Job. c. 30. v. 23. ; Song of Sol. c. 6. v. 10. ; Isaiah, c. 24. v. 23. c. 30. v. 26.

<sup>\*</sup> שמש *Schemes*, comes probably from the Arabian root *Schamasse*, which signifies *splenduit, claruit, micuit, to glitter, to shine*

We may also say, that the word שמש *Schemes*, takes its etymology from two Hebrew words שם אש *Scham, esh*, which signify, *that it is fire, or heat, or light*. Then this name may have been given to the sun on account of its heat, and because it is regarded as the focus of our world. The sun is also called חמה *Kamah*, from the root חם *Khamam*, which signifies *to have heat, to be hot*; *Khamah* signifies also *heat*.

<sup>d</sup> Is. c. 24. v. 23.

The word לבנה *Labanah*, comes from the root לבן *Laban*, which signifies *whiteness*.

<sup>e</sup> Macrobi. Saturn. l. 1. c. 73 p. 312. ; Voss. de idol. l. 2. c. 6. p. 125. col. B.



worship it under the same name <sup>f</sup>. It is also for this reason, that the Phoenicians, at the beginning, called the sun *Beelfamen*, a name which, in their language, signifies *Lord of heaven* <sup>g</sup>.

The Phoenicians and Assyrians gave to the moon the name *Astarte*, queen of the heavens <sup>h</sup>, without doubt, because that planet surpasses in magnitude all the other stars which shine in the heavens during the night. The Assyrians and Babylonians called also the moon *Ada*, *Singular* <sup>i</sup>, for the same reason that they had called the sun *Adad*.

We remark the same conformity in the primitive names by which the Egyptians designed the planets. I said elsewhere, that those whose lustre was the most striking, were the first that were known. That quality, without doubt, would suggest to men the names which they originally gave to the stars. In Egypt they had given to Venus a name which the Greeks had rendered, in their language, *Callista*, *very beautiful*, or rather *the most beautiful* <sup>k</sup>. In effect, there is no planet which equals Venus in lustre and beauty <sup>\*</sup>. With respect to Mars, the Egyptians designed him by a word in their language which signifies *fire*, a denomination which answers very well to the colour of that planet. Mercury had received among them the name of *Sparkling*, a denomination which agrees perfectly well with that star. With respect to Jupiter, they called him by a word which means *shining* <sup>l</sup>.

It is not so easy to give a reason for the first name of Saturn. The Greeks have rendered the name which

<sup>f</sup> Hesychius, *in voce* Ἀδάδ.

<sup>g</sup> Sanchon. *apud* Euseb. p. 34. C.

<sup>h</sup> Voss. *de idol.* p. 151. col. B.

<sup>i</sup> Voss. *ibid.* p. 125. col. B.

<sup>k</sup> Manetho, *in chron.* Paschale, p. 46. & 47.; Jul. Firmic. l. 2. c. 2.

<sup>\*</sup> It is for this reason, that in many provinces they never call Venus any thing but the *beautiful star*. See le Clerc. *not. in* Hesiod. p. 41.

<sup>l</sup> Jul. Firmic. l. 2. c. 2.; Manetho, *loco cit.*

The Greeks had rendered all these names in their language by those of Πυγώης, or Πυγώδης, Στίλβων, & Φαέθων. I have given the translation in the text.

that planet had received originally from the Egyptians, by *Φαίτων*, which in their language signifies *luminous, apparent* <sup>m</sup>. It must be confessed, that this qualification does not appear to agree with that star, which has very little lustre; unless we say that this word might be susceptible of another interpretation, about which notwithstanding we can determine nothing <sup>\*</sup>.

The Greeks used the same method with other nations, with regard to the names they gave to the planets in early times. To design the sun, they borrowed from the Phœnician language, the word *Helejo* †, which signifies *high*; from whence they made, according to the analogy of their language, *Helios* ‡. The property of being extremely elevated above the earth is common to all the stars; but as of all the celestial bodies the sun is the most striking, it is not surprising that they have applied it to him preferably to all the others <sup>n</sup>.

The Greeks gave likewise to the moon the name *Selene*, a name which comes from another Phœnician word, which signifies to *pass the night* ||. This name is so naturally applicable to the moon, that it would be ridiculous to endeavour to elucidate the motives of a choice the reasons of which are so easily discovered.

With respect to the other planets, we see by the most ancient authors, that they bore originally among these people, the same denominations as among the Egyp-

<sup>m</sup> Jul. Firmic. *locis cit*; Achil. Tat. *isag.* c. 17. *init.*

<sup>\*</sup> Riccioli *Almagest*, l. 17. c. 1. believes that Saturn had been called *Φαίτων*, that is to say, properly *he who shews himself*, because, of all the planets, his conjunctions with the sun last the shortest time. Saturn finds himself soon disengaged from the rays of that star, on account of the slowness of his own motion. Whereas Mars, for example, whose motion approaches nearly to that of the sun, follows that star for a pretty considerable time, immediately after their conjunction; it is for this reason, that Mars does not go so quick out of the rays of the sun.

† עֲלִיָּא. ‡ Ἠλῖος.

<sup>n</sup> Le Clerc. not. *in* Hesiod. p. 68.

|| שֶׁלֵנָה *Schelanah*, le Clerc. *lococit.*



tians \*. This is a proof, that the Greeks had received them from Egypt, as well as the first elements of astronomy. They only made some changes in these names, to accommodate them to the genius of their language \*.

The Chinese appear to have been the only ones among the policed nations who have given to the planets names, which it will be difficult to penetrate into the reasons of. They reckon five elements, *earth, fire, water, wood, and metals*. The Chinese made use of these names, to design the five planets other than the sun and moon. They applied the earth to Saturn, wood to Jupiter, fire to Mars, metal to Venus, and water to Mercury †.

But let us remark at the same time, that Venus bears also among the Chinese, another name besides that I have just mentioned. They call her also *Tai-pe* which means *very white* †. This denomination proves two things to us. The first, that the Chinese, like all other nations, had designed that planet by a name analogous to its most

\* Homer designs Venus by the epithet of *Κάλλις*, Iliad. l. 22. v. 318. See also Plato in *Epinomi*, p. 1012., Arist. *de mundo*, t. 2. p. 602.

It is true, it is doubted whether these two tracts are Plato's and Aristotle's; but whoever have been the authors, they are certainly very ancient.

Eratosthenes, c. 43. uses the same term. The text of that author, such as we have it now in print, is very much corrupted in this place.

\* The author of *Epinomis* insinuates it plainly enough, p. 1012.

What Plato says in *Cratyl.* p. 281. on the etymology of the word *πῦρ*, which in Greek signifies *fire*, is a farther proof. Plato agrees that the Greeks had borrowed that word from the Barbarians. It is plain that *πυρόεις*, the primitive name of the planet Mars, comes from *πῦρ*. Salmasius pretends that this word is purely Egyptian. *De ann. climat.* p. 596.

It farther appears, that *Φαίωv* is an oriental word which comes from the Hebrew פִּנָּח *Phanah*, *apparere, lucere*. This is not even a mere conjecture. We have seen that this was the primitive name of Saturn among the Egyptians. Valens says also, that the Babylonians called the planet Saturn, *Φαίωv*. Salmas. *loco supra cit.*

About all these etymologies one may consult Vossius *de idol.* l. 2. c. 22. & 31.; &c. & les réflexions critiques sur l'histoire des anciens peuples par M. Fourmont, t. 1. l. 2. c. 7. & seq.

† Martini, *hist. de la Chine*, l. 1. p. 22. & 23.; Hyde, *hist. relig. veter. Persar.* p. 221.

† Hyde. *loco cit.*

apparent

apparent quality. The second, that this name is, without contradiction, the primitive denomination that Venus had received among these people. According to all appearances, this planet was the first that fixed their attention. In consequence, they had given it a simple name, drawn from the quality which had struck them most. It was only afterwards, when the Chinese had discovered the four other planets, that they looked for a name which might be common to these five stars. It was then probably that these people changed the ancient name they had given to Venus \*.

The practice of savage and barbarous nations will serve to confirm what I have just said about the origin of the first names given to the planets.

The savage people of America, as we have already seen elsewhere, only knew a very small number of stars. Yet they had thought of giving them names. These denominations, with respect to the planets, have a perfect conformity with those which these stars had received in the first times, among the people of our continent. The names which the savages of North America gave to the sun and the moon, are relative to the exterior and sensible qualities of these stars. They name the sun *Ouentekka: He bears the day* †. They call the moon *Afontekka: She bears the night* †. Venus has not escaped from their observations. The name which they give to that planet, characterises it perfectly. They name it *te Ouantanhaonitha: She proclaims the day* †.

\* It is from M. de Guignes, of the royal academy of inscriptions, royal professor and interpreter of the Chinese, that I am indebted for all that I have said in the preceding dissertation and this, on the Chinese denominations of the constellations and planets.

† Mœurs des sauvages, t. 1. p. 135.

I have translated *Ouentekka, He bears the day*, to accommodate myself to the genius of our language; for according to the letter it should be said, *She bears the day*, the sun being of the feminine gender among these people.

† Ibid.

† Mœurs des sauvages, t. 2. p. 235.

This word has the same signification as *E'ωσφόρος* among the Greeks, and *Lucifer* with the Romans.



It does not appear that the Peruvians, although sufficiently instructed in astronomy, have paid any great attention to the planets. I think thus because they have not distinguished them by particular names. Nevertheless the lustre of Venus had struck them. The Peruvians had searched for a word proper to design that planet. The name which they had given her, like that of all the ancient nations, was taken from her principal quality. They called her *Thasca*, *Hairy*\*, without doubt, because of the rays with which she is always surrounded.

But, as I have already said, the nations of the east and of Europe have not always stuck constantly to the primitive denominations. The people, full of acknowledgment to the great men who had heaped benefits upon them, decreed them divine honours. They then thought of placing them in the heavens. They could not find a more convenient retreat for these new guests, than the planets. From hence these names of certain gods, such as Osiris, Mercury, Saturn, Jupiter, Thuras, Venus, &c. which they had given to the planets among many nations. But we see that at the same time these new names have not abolished the memory of the primitive denominations. These first vestiges of antiquity had subsisted, among the Egyptians and the Greeks, a long time after the ages in which these people, having resolved to place in the heavens the souls of their heroes, had in consequence given their names to planets\*.

As to the characters by which the astronomers at this time design the planets, many authors think that they are very ancient. They even think, that they there find traces of usages practised in the most early ages\*.

I

\* Hist. des Incas, t. 2. p. 36.

\* Plut. de placit. philosoph. l. 2. c. 15. p. 889.; Achil. Tat. isag. c. 17.; Gemin. c. 1. apud Petav. Uranol. p. 4.: Hygin. astron. l. 4. c. 15. & seq.; Cleomedes meteor. l. 1. p. 16.; Censorin. de Dei nat. c. 13.

\* Scaliger, in his notes on Manilius, says that a proof that the astronomical characters which we use for the planets are of a very great antiquity, is, that we find the same characters ingraved on many very ancient stones and rings.

I think, that we should ascribe the invention of these characters to the people of the east, and that they are the remains of the first manner of writing in hieroglyphics. The Greeks, from whom we have this abridged way of designing the stars, have probably received them from the eastern nations: but there is greater reason to think that the particular form of each character has suffered great changes relatively to the times and the places where they were used. It is certain, that they had not given originally to the planets, the names of the gods by which they afterwards designed them. It is equally proved, that the ancient nations were not unanimous about the names of the divinities which they had attributed to these stars \*. The astronomical characters must, of consequence, have varied according to the different denominations. The attributes of some could not agree with those of others.

It must be agreed, that the characters which we use at present, are different enough from those found in the writings of the ancients. We need only compare them, to be convinced of it \*. I shall then be led to look upon

rings. He thinks that the astronomical character ♄ of Saturn, means the scythe of *time* which cuts down all things.

That of Jupiter ♃ the first letter of the name of God in Greek, with an intersection.

That of Mars ♂ an arrow with a shield.

That of Venus ♀ a mirror with a handle.

That of Mercury ☿ the caduceus.

It is also the opinion of Riccioli *Almagest*. l. 7. c. 1.

This reasoning will prove at least, that these characters came to us from the Greeks; but they certainly are not of the first antiquity. They could only take place since the time that they attributed the names of the divinities to the planets.

\* See Achil. Tat. *isag.* c. 17; Macrobi. *Saturn.* l. 1. c. 21. p. 303. l. 3. c. 12. p. 412.; Herod. l. 2. n. 144.; Diod. l. 2. p. 143.; Arist. *de mundo*, c. 2. p. 602.; Plut. *de Iside & Osiride*; Scholiast. *Apollon.* ad l. 3. v. 1376.; Plin. l. 2. c. 8. p. 75. & 36.; Apuleius *de mundo*, p. 169.; Hygin. *astron.* l. 2. c. 42. p. 426.; Chron. *Paschale*, p. 37. D. Tim. *Locrus de anima mundi apud Plut.* p. 1091.; Augustin. *de civit. Dei*, l. 7. c. 15.; Voß. *de idol.* l. 1. c. 16. l. 2. c. 27. 31. 32. & 33.; Plin. *exercit.* p. 1235. & 1236.

By comparing the different passages of these authors, it will be seen how much the ancient nations varied about the names of the divinities which they attributed to the planets.

\* See the figures of the ancient characters referred to by Salmassius, Plin. *exercit.* p. 1235. & 83. and in the remains of M. Heuet on Marston, l. 2. p. 40.

the



the Arabians as the authors of these changes, and to think, that we have received from these people the form of the astronomical characters which we use at present. This conjecture is founded on this, that we design the planets in astronomy, and metals in chemistry, by the same characters. Now, all the world agrees, that chemistry came to us from the Arabians. There is great reason to think, that having also been obliged to them for the renewal of astronomy, we have received from these people the signs used by them in both these sciences.

The custom of making each day of the week answer to a planet, is very ancient. Herodotus, and other writers, attribute to the Egyptians the origin of this custom <sup>z</sup>. There are some, notwithstanding, who ascribe it to the Chaldeans, to Zoroaster, and Hystapes <sup>a</sup>. Be this as it will, it is very probable, that this custom took its rise in the east. We know, that, from time immemorial, the eastern nations made use of weeks composed of seven days <sup>b</sup>. Without doubt, each day of the week received the name of the planet under whose denomination the ancients were persuaded it was. It is true, there is no relation between the order which the planets follow in the week, and their arrangement in the heavens. Plutarch gives a reason for this displacing. His work is lost. The title only remains. I shall not stop to explain the motives alledged by the astrologers, motives founded on the power which they attribute to each planet over each hour of the day, by beginning with that of noon. It suffices to mention such explications, to shew all the ridicule of them.

<sup>z</sup> Herod. l. 2. n. 82.; Dion. Cassius, Rom. hist. l. 37. p. 42. edit. 1592.

<sup>a</sup> Salmaf. *de an. climact.* p. 595. & 596.

<sup>b</sup> See part 1. b. 3. p. 217. & 218.

*The End of the SECOND VOLUME.*

















